

1 THE HONORABLE JOHN C. COUGHENOUR
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13 UNITED STATES DISTRICT COURT
14 WESTERN DISTRICT OF WASHINGTON
15 AT SEATTLE
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17 FEDERAL TRADE COMMISSION,
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19 Plaintiff,

20 v.
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22 AMAZON.COM, INC.,
23

24 Defendant.
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31 No. 2:14-CV-01038-JCC
32

33 **DECLARATION OF AARON RUBENSON
34 IN SUPPORT OF AMAZON.COM, INC.'S
35 OPPOSITION TO THE FTC'S MOTION
36 FOR SUMMARY JUDGMENT**

37 NOTE ON MOTION CALENDAR:
38

39 Friday, February 26, 2016
40
41

42 Aaron Rubenson declares:

43 1. I am a Director of the Amazon Appstore ("Appstore") and have been since
44 July 2011. Prior to that I was a senior manager and the business leader overseeing development
45 of the Appstore from its inception. I make this declaration based upon personal knowledge as to
46 which I am competent to testify.

47 2. I have reviewed the Federal Trade Commission's ("FTC") Motion for Summary
48 Judgment in the above-captioned matter and have considered in particular the FTC's
49 "SUMMARY OF UNDISPUTED FACTS" ("FTC Fact Statement").
50
51

52 DECLARATION OF AARON RUBENSON
53 (No. 2:14-CV-01038-JCC) - 1

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1 3. In **Paragraph 2** of the FTC Fact Statement, the FTC asserts that Amazon
2 marketed Kindle Fire devices to families, “targeting ‘soccer parents’ in particular.” In addition,
3 the FTC asserts that Amazon sells and makes money from game apps that can be purchased from
4 the Appstore and played on Kindle Fire devices and that many of these apps are games that
5 children are likely to play.
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3.1 These assertions unfairly distort the nature of Amazon’s marketing and sales practices and imply a conclusion that is not accurate in my experience. The study cited by the FTC as evidence that “soccer parents” were targeted was performed over a year after Amazon launched in-app purchasing. The study assessed the strengths and weaknesses of the software for Amazon’s tablets in its entirety (not just in-app purchasing), and identified parents not because they were somehow particularly vulnerable consumers, but because parents and families already represented a large share of Amazon’s customer base and Amazon believed that Kindle Fire devices were best-suited to families given the features contained on these devices. For example, in FTC Exhibit 152 (quoted by the FTC in its Fact Statement above), Amazon identified “soccer parents” as “low hanging fruit” not because of any particular susceptibility of these customers to Amazon’s marketing efforts, but because these customers as a group were known to favor Amazon products, establishing “existing affinity with the Amazon brand and [Kindle Fire 1] device sales.” Further, references in FTC Exhibit 152 to “kids” relate to Amazon’s plans for Kindle FreeTime, software which allows parents to control tablet usage by children, including the ability to control what apps, books, videos, or other content a child can access and the duration of time a child can use the device.

3.2 Not all of the apps at issue in this case properly should be considered “just for kids.” It is common knowledge in the industry and also my personal understanding that many of the apps for which the FTC seeks relief (i.e., apps on Amazon’s “High-Risk ASIN List”) are used by significant numbers of adults as well as by children, and I believe that some are, in fact,

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more predominantly used by adults than by children. For example, the FTC includes among the items on its list of games that children are likely to play universally popular apps like Angry Birds. Yet in my experience Angry Birds is popular among adults as well as children. Indeed, several studies report that popular apps like Angry Birds appeal primarily to adults. *See Ex. A* (“Nielsen reveals most popular Android apps by age. Angry Birds appeals most to over 35s.”). And many of the apps on Amazon’s High Risk ASIN list are not targeted specifically or exclusively at children, but instead target specifically “all ages,” teenagers, or “mature” as the age range of likely users, each of which would include adults as well as children. Thus, among the apps that the FTC identifies as popular among children, a substantial portion are games that are also played in significant numbers by teens and adults of all ages.

3.3 Literature in the industry is consistent with my observations in Paragraph 3.2. Attached hereto as **Exhibits A-F** are true and correct copies of publicly available news articles in trade magazines describing how apps played by children are also played by adults. The conclusions cited in these references are consistent with my experience in the industry. These articles discussing apps, video games, and in-app purchasing are of the type that I and other employees at Amazon review and take into account in order to assess Appstore performance and strategy. The description in the articles of how so-called children’s games are also played by significant numbers of adults is consistent with my own experience at Amazon based on our customers’ behavior and purchasing profiles.

4. In **Paragraph 3** of the FTC Fact Statement, the FTC asserts that Amazon offers certain apps as “free” or for a specific price, but “Amazon bills users for charges, known as ‘in-app charges’ (or ‘in-app purchases,’ ‘IACs,’ or ‘IAPs’), within the apps.”

4.1 This assertion inaccurately describes the apps that are available on the Amazon Appstore and how these apps are offered for sale. Amazon offers apps for download in the Appstore that are free or priced at a pre-set figure, and some of them do offer in-app

1 purchasing capability even though the initial sales price for the app itself is zero dollars. The
2 FTC's suggestion that Amazon somehow delivered a free app but then charged a purchase price
3 to the customer without his or her consent is wrong. There was never any hidden fee, payment
4 of which was required to use those apps. All apps labeled "free" were free to use and no account
5 holders were billed any sum of money unless they made subsequent in-app purchases. Further,
6 the vast majority of Amazon's customers never make an in-app purchase from within a free app,
7 as we shared with the FTC in April 2014.

8 4.2 Whether the apps were free or for purchase, Amazon has informed its
9 customers about in-app purchasing in multiple ways. For example, to download an app, a
10 customer first has to visit the app's detail page, which displays a description of the app and other
11 relevant information such as price and customer ratings and reviews. This app description
12 carries a notice that reads:

13 PLEASE NOTE: This app contains in-app purchasing, which
14 allows you to buy items within the app using actual money. On
15 Amazon devices, you can configure parental controls from the
16 device Settings menu by selecting Parental Controls.

17 Amazon implemented this notice the first week after in-app purchasing was
18 launched, and although the exact wording changed slightly over time, the text has always
19 informed customers that the app lets them make purchases using "actual money" and that they
20 could configure Parental Controls via the Settings menu to prevent such purchases by children.
21 In addition, Amazon enhanced the app description in June 2013, with the addition of "badging" –
22 a design technique that displays a legend automatically inserted on the upper portion of the app
23 details page of apps that offer in-app purchasing. The framed legend is captioned "Key Details,"
24 and tapping on the legend produces a pop-up screen that further explains in-app purchasing and
25 Parental Controls that are available to limit such purchasing. Finally, Amazon Help Pages also
26 provided information to customers about in-app purchasing and Parental Controls, including a
27 tutorial titled "In-App Purchasing 101."

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1 4.3 Attached hereto as **Exhibits G-I** are true and correct copies of the app
2 description, “Key Details” badge, and Amazon’s “In-App Purchasing 101” tutorial.
3
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5 5. In **Paragraph 5** of the FTC Fact Statement, the FTC asserts that parents and other
6 account holders may download apps but that children often play them. Further, the FTC asserts
7 that “in many kids’ games, children can acquire virtual items – sometimes for virtual currency
8 and sometimes for money, billed to the parents’ account.”
9
10

11 5.1 These assertions abridge how apps are actually sold on the Amazon Appstore.
12 As part of initial setup of a Kindle Fire tablet, customers associate the device with an Amazon
13 account and payment method. Customers using the Appstore app on non-Amazon Android
14 devices must also use an Amazon account and payment method. As a condition of using the
15 Appstore, customers agree to the “Amazon Appstore for Android Terms of Use,” which inform
16 the customer of the potential for in-app purchases and that purchases will be
17 completed using 1-Click. Appstore customers also agree to Amazon’s Conditions of Use.
18
19

20 5.2 Further, when Amazon introduced in-app purchasing, its goal from the
21 beginning was to provide parents the necessary tools to protect against unwanted purchases by
22 their children or grandchildren. These tools, which are described in detail in this Declaration,
23 included Parental Controls. Further, the “disconnect” to which the FTC refers in its Fact
24 Statement refers to e-mail marketing campaigns, not notices of in-app purchasing. *See* FTC Ex.
25 105 (“E-mail campaigns are relatively easy to organize, however they are plagued with
26 challenges, such as the disconnect between the account owner (e.g., parent) and the app user (e.g.
27 child).”).
28
29

30 5.3 Attached hereto as **Exhibits J-K** are true and correct copies of the Appstore
31 Terms of Use and Amazon’s Conditions of Use.
32
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1 6. In **Paragraph 6** of the FTC Fact Statement, the FTC asserts that before
 2 introducing in-app purchasing to the Amazon Appstore, Amazon recognized the “obscurity” of
 3 in-app purchasing. Further, the FTC claims that Amazon also was aware that children had
 4 “incurred unauthorized in-app charges” on other mobile platforms.
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9 6.1 This assertion inaccurately describes the introduction of in-app purchasing
 10 on the Amazon Appstore. When Amazon introduced in-app purchasing on the Amazon
 11 Appstore in 2011, in-app purchasing had already been available on the Apple Appstore (since
 12 late 2009) and on the Google Android Marketplace (now the Play Store). Introduction of in-app
 13 purchasing on these other appstores had been widely publicized and successful. When we
 14 launched in-app purchasing, we relied on this success and on research indicating that in-app
 15 purchases were already a \$970 million business, accounting for 39% of all App revenue.
 16 Further, Amazon was aware through media reports that customers of the Apple and Google
 17 appstores had experienced unwanted in-app purchases by children. For these and other reasons,
 18 Amazon made sure that Parental Controls were available from launch on Kindle Fire tablets and
 19 Android devices with the Amazon Appstore.
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 21

22 6.2 Attached hereto as **Exhibit L** is a true and correct copy of e-mail
 23 correspondence in which I notified other team members of one article addressing unwanted in-
 24 app purchases and indicated that “[w]e need to think this through for our IAP implementation.”
 25
 26

27 7. In **Paragraph 7** of the FTC Fact Statement, the FTC asserts that when Amazon
 28 launched the Appstore and in-app purchasing in November 2011, “by default, it did not require
 29 account holder approval for in-app charges through password entry or other means.” Instead, the
 30 FTC claims that, “Amazon allowed children – including those with little to no understanding of
 31 money – to incur charges merely by clicking through popups in the app detailing the charges.”
 32
 33

34 7.1 These assertions ignore broader context of in-app purchasing. Prior to
 35 making an in-app purchase (or any purchase from Amazon through their mobile device), all
 36
 37

1 Amazon account holders had to first associate their device with their Amazon account and
 2 payment method. Also, Amazon's Terms of Use identify the availability of in-app purchasing.
 3 Finally, under Amazon's Conditions of Use account holders agreed to "accept responsibility for
 4 all activities that occur under your account or password."

5 7.2 Additionally, when Amazon introduced in-app purchasing, it made design
 6 choices from the outset to enable parents to prevent unwanted purchases by children. Among
 7 these choices, Amazon designed and implemented a Parental Controls feature allowing
 8 customers to require a password or PIN for in-app purchases, thereby preventing children from
 9 incurring charges merely by "clicking through popups in the app detailing the charges." With
 10 Parental Controls enabled, a customer attempting an in-app purchase would be presented with
 11 purchase prompts asking that the customer "Enter your Parental Controls Password" to complete
 12 the purchase. In addition, as is outlined above, Amazon has notified parents of in-app
 13 purchasing capability via the app description page and "In-App Purchasing 101" tutorial.

14 8. In **Paragraph 8** of the FTC Fact Statement, the FTC asserts that shortly after
 15 introducing in-app charges, Amazon began receiving contacts from parents about unwanted in-
 16 app charges incurred by children without parental permission. These contacts, the FTC asserts,
 17 "reached levels an Amazon Appstore director described as 'near house on fire,' noting that
 18 'we're clearly causing problems for a large percentage of our customers.'"

19 8.1 These assertions do not fully explain Amazon's (and my own) impressions.
 20 Not long after in-app purchasing launched on the Appstore, it became apparent to Amazon that
 21 some parents who had not enabled Parental Controls had been surprised that in-app purchases
 22 had been made by their children. An unexpected number and percentage of customers were
 23 contacting Amazon customer service about such purchases. Although the issue affected only a
 24 small percentage of all in-app purchasers, it was unacceptable to Amazon, not because of lost
 25 revenue, but because these purchases indicated customer dissatisfaction. I was the Amazon
 26

1 Appstore director who deemed this a “near house on fire” situation in order to express to the
 2 teams involved in in-app purchasing the urgency of promptly resolving this area of customer
 3 dissatisfaction by driving down unwanted in-app purchases. My priority was to ensure we took
 4 immediate steps to reduce customer dissatisfaction. I was not of the view that the refund
 5 requests were a sign of any unfairness or deception on the part of Amazon.
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9. In Paragraph 9 of the FTC Fact Statement, the FTC asserts that Amazon
 10 Appstore employees were aware that parents were complaining that children were incurring in-
 11 app charges “without consent.”
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14 9.1 This assertion misconstrues Amazon’s overall reaction to its customers’
 15 concerns. Amazon was aware from the outset that parents would value the ability to control and
 16 manage use of Kindle Fire tablets by their children, and, accordingly, Amazon designed Parental
 17 Controls to be available from the outset when Amazon first launched in-app purchasing. In
 18 addition, as is outlined above, Amazon has consistently notified parents of in-app purchase
 19 capability via the app description, Key Details page, and Help pages. When Amazon learned of
 20 higher-than anticipated refund requests, which included requests for refunds of sales transacted
 21 by parents, Amazon took a proactive, data-driven approach to reduce those refund requests and
 22 to further educate parents about in-app purchases and Parental Controls without creating a worse
 23 experience for the overwhelming majority of customers who were satisfied with the in-app
 24 purchasing and who did not want additional popup screens or password prompts.
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27 10. In Paragraph 10 of the FTC Fact Statement, the FTC asserts that, from
 28 November 2011 through June 2013, the only information about in-app purchasing on the app
 29 detail pages was appended “to the end of lengthy app descriptions” and that this information was
 30 displayed “such that it flowed directly from the text before it (without line breaks)” and could
 31 appear “below the fold.”
 32
 33

1 10.1 This assertion inaccurately describes the app description page. Since less
 2 than a week after Amazon first began offering in-app purchasing, the description page for each
 3 app that offers in-app purchases has included the following notice:
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6 PLEASE NOTE: This app contains in-app purchasing, which
 7 allows you to buy items within the app using actual money. On
 8 Amazon devices, you can configure parental controls from the
 9 device Settings menu by selecting Parental Controls.
 10

11 Although the exact wording of this notice has changed slightly over time, it has always informed
 12 customers that the app allows them to make purchases using “actual money” and that customers
 13 could configure Parental Controls via the Settings menu to prevent unwanted purchases by
 14 children. For some apps, this notice wound up “below the fold” on the device’s screen – that is,
 15 the customer had to scroll down to see the notice – because the app developer’s description of
 16 the app did not fit on a single screen. But for all apps with in-app purchasing, this notice was
 17 part of and located in the same place within the app’s description, and any interested parent
 18 could learn how to avoid spending “actual money” simply by reading the product’s description
 19 before downloading it. In addition, Amazon includes customer reviews on the detail pages of the
 20 apps it offers. Customers can—and often do—comment on the presence of in-app purchasing
 21 within those apps.
 22

23 11. In **Paragraph 11** of the FTC Fact Statement, the FTC asserts that Amazon did not
 24 disclose on app description pages “that, by default, children could incur in-app charges without
 25 password entry or that password entry approving a single in-app charge could open a billing
 26 window during which additional, unlimited charges could be incurred.”
 27

28 11.1 This assertion is incorrect. Starting within the first week of launch, the app
 29 description page has provided notice of the existence of in-app purchasing within the app and has
 30 directed parents to Parental Controls (available from the outset) to prevent children from making
 31 unwanted in-app purchases. Further, on the Amazon Appstore, children cannot “by default . . .
 32 incur in-app charges without password entry.” Amazon has adopted various password
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1 requirements for in-app purchasing that apply to certain apps and purchasing patterns regardless
2 of a device's Parental Controls settings. Specifically:

- 3
- 4
- 5 • In January 2012, Amazon temporarily suspended the sale of all in-app items priced at \$20
6 or higher. Then, in March 2012, Amazon implemented a password requirement for all
7 in-app purchases of \$20 or more. After successful entry of the password, a purchase-
8 confirmation popup notified the user if Parental Controls were currently on or off and
9 included a hyperlink so the user could, if desired, immediately change the Parental
10 Controls setting for future purchases less than \$20.
- 11
- 12 • In October 2012, after over a year of development, Amazon released Kindle FreeTime on
13 second-generation and newer devices. This software allows parents to manage tablet
14 usage by children, including the ability to control what apps, books, videos, or other
15 content a child can access and the duration of time a child can use the device. Within
16 FreeTime, all in-app purchasing is disabled.
- 17
- 18 • In February 2013, Amazon implemented on second-generation and newer devices a
19 password for high-frequency purchases. Upon a customer's second attempt to make an
20 in-app purchase within a five-minute period, the customer was presented with a password
21 prompt, even if Parental Controls were disabled.
- 22
- 23 • In May 2013, Amazon began to require on second-generation and newer devices a
24 password for all in-app purchases made within apps specifically designed for use by
25 children, as determined from information provided by the third-party developer of an
26 app; that exhibited high refund rates; or that included the ability to purchase in-app items
27 costing \$20 or more. For those categories of apps, once the customer entered a password
28 for an in-app purchase, a 15-minute purchasing window opened. Neither this purchasing
29 window nor the high-frequency purchasing window applied to attempted purchases of
30 high-priced in-app items, which always required entry of a password.
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- 1 • Also in May 2013, Amazon added on second-generation and newer Kindle Fire devices a
2 password requirement for all first-time in-app purchases. This “Confirm In-App
3 Purchase” prompt further explained in-app purchasing and required entry of a password
4 to proceed. The prompt also informed the user that “If you’d like to require a password
5 for future in-app purchases, please turn on Parental Controls” and included a hyperlink
6 for the user to do so.
- 7 • In June 2013, Amazon enhanced the detail pages for apps with in-app purchasing by
8 including an above-the-fold “Key Details” badge located at the top and to the right of the
9 app description. Tapping on the legend produces a popup window, and the user can scroll
10 down to view a further explanation of in-app purchasing and Parental Controls.
- 11 • In July 2013, Amazon reduced the threshold for the high-price password from \$20.00 to
12 \$19.99 and higher.
- 13 • In October 2013, Amazon added a password requirement for purchases of \$1 or more
14 coming from first-generation devices.
- 15 • In June 2014, Amazon implemented on second-generation or newer devices a revised
16 first-time purchase prompt, which asks the account holder to select whether he or she
17 wants to require a password for future in-app purchases. If the account holder chooses to
18 require a password, the device will enable Parental Controls. In order to authorize the
19 specific purchase and the password selection for future purchases, the account holder
20 must enter his or her password.

21 12. In **Paragraph 12** of the FTC Fact Statement, the FTC asserts that Amazon was
22 aware that unauthorized in-app charges were especially prevalent in “child-focused games” and
23 that Amazon also was aware that a default password requirement could help prevent
24 unauthorized in-app charges.

1 12.1 These assertions are incorrect. First, as outlined above, the “child-focused
 2 games” to which the FTC points are games that are also played – sometimes even more
 3 frequently – by adults. Second, Amazon evaluated whether a default password requirement for
 4 all in-app purchases was in its customers’ best interests and concluded it was not. We rejected
 5 this option because it would have imposed unwanted friction on the bulk of customers making
 6 in-app purchases (e.g., adults who had no children or who otherwise preferred a seamless
 7 purchase flow), given that Amazon’s data showed that even at the height of this concern only a
 8 very small percentage of its in-app customers were complaining about in-app purchases. Instead,
 9 Amazon began an iterative cycle in which it implemented targeted refinements, analyzed data to
 10 determine if additional changes were warranted, evaluated potential changes, then identified
 11 additional refinements.
 12

13. In **Paragraph 13** of the FTC Fact Statement, the FTC asserts that, in considering
 14 how to address unwanted in-app purchases made by children, one of Amazon’s Appstore
 15 directors suggested Amazon “do nothing that would slow down the growth of [Amazon’s]
 16 platform[.]”
 17

18.1 This assertion takes the quoted statement out of context. The full text of
 19 FTC Exhibit 53 reads: “We should add back the high ASP items, default parental controls to *off*
 20 and do a better job educating customers. In the meantime we are handling customer complaints
 21 by giving them full refunds as well as teaching them about the feature that already exists. My
 22 guiding principal for IAP is to do nothing that would slow down the growth of the platform and
 23 right now we are optimizing for a very small percentage of customers and making a worse
 24 experience for the large percent”
 25

26.2 Further, Amazon’s primary consideration at all times was customer
 27 satisfaction and experience with the Appstore, and so its policy was and remains to provide
 28 refunds for all first-time accidental in-app purchases and to educate customers as to how to avoid
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1 these purchases in the future. Indeed, Amazon frequently made design choices that it expected
 2 would reduce revenues in order to protect and improve its customers' experience. Examples of
 3 changes Amazon made that it expected would reduce revenue included the high-frequency
 4 password challenge and the High-Risk ASIN List.
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7 14. In Paragraph 14 of the FTC Fact Statement, the FTC asserts that in March 2012,
 8 Amazon introduced a password prompt only for individual charges of \$20 and over, and did not
 9 implement a password prompt for in-app charges under \$20, or sub-\$20 charges that in
 10 combination exceeded \$20.
 11
 12

13 14.1 This assertion omits the full scope of high-value in-app purchase protections
 14 that Amazon implemented, and why Amazon did so. After investigating and determining that
 15 high-price in-app items were generating disproportionately high requests for refunds, Amazon
 16 temporarily suspended the sale of all in-app items priced at \$20 or higher in January 2012. Then,
 17 in March 2012, Amazon implemented a password requirement for all in-app purchases of \$20 or
 18 more. The \$20 level was selected because Amazon believed it to be the right balance of
 19 customer experience and ease of use. When Amazon re-examined refund data later in 2012, we
 20 identified a different problem: high refund rates for purchases made in rapid succession. We
 21 addressed that problem beginning in February 2013 by requiring a password for multiple
 22 purchases within five minutes. Later, in July 2013, based on Amazon's further analysis of data
 23 indicating a disproportionate frequency of refunds for in-app items priced at \$19.99, Amazon
 24 reduced the threshold for the high-price password from \$20.00 to \$19.99 and higher. And,
 25 finally, Amazon reduced the password threshold to \$1 for its first generation Kindle Fire because
 26 those older devices no longer supported software updates that would have otherwise been used to
 27 reduce refund requests. As a result, all remaining purchases over \$0.99 from the first-generation
 28 device were subject to a password prompt from that time forward. At all times, charges above
 29 \$20 still received a password prompt if Parental Controls were activated.
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1 14.2 **Exhibit 154 to the FTC's Motion for Summary Judgment** is copy of the
 2 Amazon Appstore In-App Purchasing Parental Control Recommendation (1/17/2012) reflecting
 3 implementation of the \$20 password control feature. In this document, it was explained that
 4 implementation of the \$20 threshold would "affect 2.1% of our customers but address 75% of
 5 our returned OPS." In addition, the feature allowed for "flexibility to adjust this threshold over
 6 time as we release new feature[s] and learn about customer behavior." This was because
 7 Amazon was keen on continuing to monitor the situation over time and, if data indicated that an
 8 adjustment of the dollar threshold level was indicated to further mitigate refund requests,
 9 Amazon was prepared to do so.

10 15. In **Paragraph 15** of the FTC Fact Statement, the FTC asserts that Amazon began
 11 seeking password entry for charges of \$20 and up to ensure that those charges were incurred "by
 12 the actual accountholder and not someone without permission," according to an internal
 13 document.

14 15.1 The quoted statement in the FTC's Exhibit 520 is taken out of context in a
 15 way that alters its true meaning. The same document indicates that Amazon implemented the
 16 \$20 password control mechanism "in order to improve discovery of parental controls and
 17 decrease accidental purchases." *See* FTC Ex. 520 at AMZ_FTC_0042067. This meant that the
 18 change was intended to give greater prominence to Parental Controls with the desired effect
 19 being that more parents would pay attention and consider enabling the feature that would, in
 20 turn, reduce refund requests. That same document also indicated that Amazon continued to rely
 21 on its customer service department and refund policy to address concerns customers had with
 22 any other in-app purchases.

23 16. In **Paragraph 16** of the FTC Fact Statement, the FTC asserts that "[t]hough
 24 Amazon was aware that children incurred unauthorized in-app charges at price points below \$20,
 25 it billed for such charges without requiring password entry."

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1 16.1 This statement is incorrect as to numerous categories of in-app purchases.
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Amazon disagrees that the referenced in-app charges were “unauthorized” even if they were inadvertently or accidentally transacted, given that the account holder assumed responsibility pursuant to the Conditions of Use and Terms of Use. In addition, there are an abundant amount of purchases for in-app products from the Appstore that were at price points below \$20, but which were transacted by successfully entering a password. These types of purchases include:

- Purchases made with Parental Controls activated (password entry required);
- Purchases made over \$20/\$19.99 or \$1 (Kindle Fire 1) (password required);
- Second attempt to make an in-app purchase within a five-minute period (password required);
- Purchases made within app designed for use by children or with high refund rates (password required).
- Purchases made after May 1, 2013, when Amazon explicitly began notifying customers of in-app purchases and Parental Controls on their first in-app purchase.

16.2 Further, while the FTC claims that Amazon “billed” customers for unwanted in-app purchases, Amazon’s policy and practice has in fact always been to reverse any such billing by providing refunds for accidental purchases. Consistent with this policy, Amazon instructed its agents to refund all first-time “accidental” in-app purchases during the entire period of time at issue. As part of the refund process, Amazon customer-service agents also were instructed to educate the customer simultaneously with granting his or her refund request, meaning conduct a sort of telephonic tutorial teaching the customer how to use Parental Controls to avoid future accidental purchases. The tutorial was followed up by sending the same instructions via email to the customer. In granting refund requests, our customer service personnel, if anything, over-refunded in many instances, by generously providing subsequent refunds to customers who already had been refunded once and educated, and whose subsequent

1 purchases thereafter were almost certainly were not accidental. More likely these were the result
 2 of the customer “gaming” Amazon’s generous refund policy to intentionally obtain product for
 3 free by making a purchase, obtaining a refund, but keeping the product for later use because it
 4 was not returnable like a physical good would have been.
 5
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7 17. In **Paragraph 17** of the FTC Fact Statement, the FTC asserts that in July 2012, I
 8 again described the problem of unauthorized charges by children as a “house on fire” situation.
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11 17.1 As is outlined above, I deemed the situation of children incurring unwanted
 12 in-app purchases a “house on fire” situation in order to express to the teams involved in in-app
 13 purchasing the urgency of promptly resolving this customer dissatisfaction and driving unwanted
 14 in-app purchases down. And in fact, my team again analyzed refund rates and identified another
 15 type of behavior accounting for high refunds: multiple purchases within a short period. We
 16 were preparing to address that problem when the FTC launched its investigation. With my
 17 earlier email, I was not inferring that Amazon’s customers had experienced any sort of unfair or
 18 deceptive practice on the part of Amazon.
 19
 20

21 18. In **Paragraph 18** of the FTC Fact Statement, the FTC asserts that in February
 22 2013, Amazon began adding password prompts that would appear for some in-app charges but
 23 not others. The FTC claims that these prompts “operated in different ways for different apps and
 24 different account holders, and often opened billing windows (lasting up to an hour) in which
 25 further charges could be incurred without password entry.”
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 27

28 18.1 The FTC’s statement that Amazon’s password prompts operated in different
 29 ways for “different account holders” is incorrect. As is outlined above, Amazon has engaged in
 30 an iterative cycle in which it implemented various targeted password prompts over time, each
 31 designed to best address unwanted purchases made by children. These refinements intentionally
 32 were intended to target less than all in-app purchases, in order to implement the solution on only
 33 the small percentage of customers who were experiencing the problem, without disturbing the
 34
 35

1 customer experience of the vast majority of in-app purchasers who were not seeking refunds and
 2 who were not indicating any sort of dissatisfaction with the status quo. In all cases, password
 3 prompts operated in the same manner for all account holders (varying only with respect to the
 4 particular type of device being used by the account holder). While some password prompts
 5 opened billing windows in which a subsequent purchase could be made without entry of a
 6 password, a password was required in all cases in which Parental Controls were activated.
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13 19. In Paragraph 19 of the FTC Fact Statement, the FTC asserts that Amazon has
 14 not publicly disclosed to its customers how or when it seeks account holder authorization for in-
 15 app charges and that its password-prompting scheme was “complicated” and not transparent to
 16 consumers.
 17
 18

19 19.1 This assertion is incorrect both literally and based on my personal
 20 experience. First, the Amazon Appstore Terms of Use confirm the account holder’s
 21 responsibility for in-app charges incurred when shopping at the Appstore. Similarly, Amazon
 22 Conditions of Use confirm the account holder’s responsibility for all activities that occur on his
 23 or her enabled device. Amazon’s Help Page article captioned “In-App Purchasing 101” lays out
 24 in detail the ways that customers can limit (and eliminate) in-app purchases made on their
 25 device. These options include:
 26
 27

35 **Parental Controls for In-App Purchases**

36 Kindle Fire users can set Parental Controls to restrict in-app purchases. To enable
 37 Parental Controls, visit Settings (first tap “More” in the menu) on your device and
 38 select the “Parental Controls” option. On the next screen, select “On” located on
 39 the right side. The feature will then ask you to create a Parental Controls
 40 password that will be required to purchase any content on your Kindle Fire.
 41 Please note that once you select this setting, your password will need to be
 42 entered before every purchase.
 43
 44

45 On Kindle Fire HD, Amazon’s Parental Controls allow you to also set content
 46 restrictions by specifying which content types – such as apps and games – you’d
 47 like to be blocked and made inaccessible from your device. To enable content
 48 restrictions, you must first turn Parental Controls “On” and then select “Block and
 49

1 Unblock Content Types." On the next screen you can specify which content to
 2 block from your Kindle Fire HD.
 3

4 **Kindle FreeTime:**
 5

6 Kindle FreeTime is a free app for Kindle Fire HD that allows parents to create a
 7 customized content experience for kids. Parents can create a profile for each child
 8 and choose which books, apps, games, and videos they want to give their child
 9 access to. Parents can also set daily limits for Kindle Fire HD use, or restrict
 10 certain categories -- for example, games or videos.
 11

12 See **Exhibit I.**
 13

14 19.2 In addition to the above, whenever a customer contacted Amazon with a
 15 complaint about an accidental purchase or to make a refund request, Amazon's customer service
 16 agents regularly educated those customers about in-app purchasing and the various ways to limit
 17 unwanted in-app purchases by utilizing the features that were available to any user who would
 18 choose to enable them.
 19

20. In **Paragraph 20** of the FTC Fact Statement, the FTC asserts that Amazon's
 21 password prompts often instructed account holders to enter their Amazon password to "Confirm
 22 In-App Purchase" (*singular*) and did not explain that entering the password meant that Amazon
 23 would bill for multiple charges without seeking further password entries. Based on this, the FTC
 24 claims, "[c]onsumers would not know whether a billing window would open or when Amazon
 25 would display a password prompt for subsequent purchases."
 26

27 20.1 The FTC's assertions are inaccurate in my experience and inconsistent with
 28 the results of objective analysis Amazon has performed regarding unwanted in-app purchases.
 29 After successful entry of a customer password and a transacted purchase of an in-app product,
 30 the Order Confirmation page automatically displays whether or not Parental Controls are on or
 31 off, enabled or disabled, thus allowing the customer to know immediately whether an additional
 32 password prompt would be required for subsequent purchases. This feature has been standard
 33 and included in all in-app purchasing since launch. Attached hereto as **Exhibit M** is a true and
 34 correct copy of this Order Confirmation.
 35

1 20.2 Further, Amazon has determined from in-app purchasing data that, within its
 2 15-minute grace period for additional in-app purchases, refund rates are no higher. In other
 3 words, there was no indication that customers were experiencing any higher levels of unwanted
 4 purchases in this window than otherwise, indicating instead that the password prompt worked as
 5 intended without precipitating subsequent accidental purchases within the 15-minute grace
 6 period when no additional prompt was required.

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 13 20.3 Finally, Amazon's May 2013 first-time user purchase prompt reminded
 14 users that "If you would like to require a password for future in-app purchases, please turn on
 15 Parental Controls," and included a hyperlink for the customer to do so. If a customer elected to
 16 turn on Parental Controls, a password was prompted even within the billing window otherwise
 17 open after certain in-app purchases. Therefore, consumers could exercise control to prevent a
 18 billing window from opening and to require password entry for each and every in-app purchase
 19 made on the device.

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 27 21. In **Paragraph 21** of the FTC Fact Statement, the FTC asserts that in March 2013,
 28 Amazon created a list of "High-Risk" apps classifying certain apps as presenting a "high risk"
 29 for accidental purchases, which list included apps that developers indicated were targeted to
 30 children and apps that hit particularly high refund rate thresholds. The FTC asserts that the
 31 password prompt Amazon implemented in relation to these "High-Risk" apps was
 32 "unpredictable."

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 38 21.1 The FTC's assertion that the high-risk password challenge is unpredictable
 39 is incorrect. Amazon implemented the "high-risk" password challenge after investigating and
 40 determining that certain apps were generating disproportionately high refund requests. This
 41 challenge was not unpredictable but was based off of defined criteria. For an app to fall within
 42 this criteria, it must either (1) have experienced a refund rate of 15% or more in any given
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1 month, (2) have offered in-app items priced at \$20 or higher, or (3) have been designated by the
 2 third-party developer of the app as “child-directed.”
 3
 4

5 22. In Paragraph 22 of the FTC Fact Statement, the FTC asserts that the app
 6 description page did not inform parents that, “by default, children could incur in-app charges
 7 without password entry or that password entry approving a single in-app charge could open a
 8 billing window during which additional, unlimited charges could be incurred.”
 9
 10

11 22.1 The above assertions do no accurately describe in-app purchases on the
 12 Amazon Appstore. Several features provided notice to consumers that in-app purchasing was
 13 possible and could be avoided with Parental Controls:
 14
 15

- 16 • The Notice on each app detail page, described in Paragraph 4.2;
- 17 • The Order Confirmation page shown after the entry of a password, described in
 18 Paragraph 20.1;
- 19 • The first-purchase password prompt, described in Paragraph 11.1.

20 22.2 Further, the enhanced page to which the FTC refers added the phrase “In-
 21 App Purchasing” so that it is always “above the fold,” meaning no user had to scroll to read the
 22 full description to see the information, and so that it is always at the top and to the right of the
 23 description text to ensure that it would stand out. In addition, the FTC omits that directly above
 24 it is the title “Key Details,” which is in larger font than other text and bolded specifically to draw
 25 the user’s attention. Clicking the phrase provides another detailed description of in-app
 26 purchasing. While the FTC says that “none” of the information adequately informed parents that
 27 in-app purchases were available without a password, the fact is that the notice specifically
 28 explained how to “configure” Parental Controls for in-app purchasing. Moreover, the enhanced
 29 page included a hyperlink informing customers that they could “Read More” information about
 30 the app which, once clicked, contained text that specifically addresses the FTC’s criticism that
 31 some users may not have understood they could scroll down to read more information. Clicking
 32
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1
2 the “Read More” option allows the account holder to view the original notice of in-app
3 purchasing (“PLEASE NOTE”) that has always been appended to app descriptions.
4

5 23. In **Paragraph 32** of the FTC Fact Statement, the FTC asserts that Amazon
6 “acknowledged benefits to seeking consent through password entry for in-app charges.”
7

8 23.1 This assertion inaccurately describes Amazon’s decision-making process for
9 responding to its customers’ concerns. In developing the Amazon Appstore and in-app
10 purchasing, Amazon made design choices to emphasize a seamless or “friction-free” purchasing
11 experience that was consistent with what Amazon’s customers have come to expect and desire
12 from their prior purchasing experiences with 1-Click on the Amazon website, with Amazon’s
13 Kindle e-readers, and with other digital content available from Amazon. In making these design
14 choices, Amazon was aware that some customers would share tablets and smartphones with
15 children. We believed that our customers had already consented to those purchases through our
16 Conditions of Use and Terms of Use. However, we also made Parental Controls available from
17 the very outset because we knew our customers would value the ability to restrict or control the
18 opportunity for their children to make in-app purchases that had not been approved by the
19 account-holder parent. We also developed an iterative series of password controls over time as
20 discussed above (e.g., high-price challenge, high-frequency challenge, high-risk ASIN list, first-
21 time purchase prompt) in order to reduce the incidence of customer dissatisfaction with
22 unwanted in-app purchases.
23

24. In **Paragraph 33** of the FTC Fact Statement, the FTC asserts that Amazon
25 admitted that, for reasonable consumers, “it probably doesn’t seem like too much of a non
26 sequitur that they might have to enter their password to complete a transaction”
27

28 24.1 This statement is taken out of context in a way that alters its true meaning.
29 While I testified to the above language, I further explained in the same deposition what I meant,
30 stating, “So I think it’s – it’s less of a deviation, although it is a deviation from what we believe
31

1 is . . . the best experience, which is why I keep mentioning the friction.” Attached hereto as
 2 **Exhibit N** is a copy of this testimony (Rubenson 30(b)(6) Dep. 91:24-92:2). To this end,
 3 Amazon has at all times worked to balance the need to control accidental in-app purchases for
 4 the small percentage of customers experiencing accidental purchases against imposing unwanted
 5 friction on the vast majority of customers making in-app purchases (e.g., adults who had no
 6 children or who otherwise preferred a seamless purchase flow) who do not want additional
 7 password prompts or other impediments to a streamlined purchase flow. We tried to strike this
 8 balance by taking into account the fact that Amazon’s data showed that even at the height of the
 9 concern over accidental purchases by children, only a very small percentage of Amazon’s in-app
 10 customers were being affected.

25. In **Paragraph 35** of the FTC Fact Statement, the FTC asserts that Amazon’s
 refund rates for in-app charges from kids’ apps have been higher than refund rates for apps in
 general and higher than refund rates for in-app charges incurred within other non-children
 focused types of apps.

25.1 The FTC’s assertion here (and elsewhere) regarding product performance
peculiar to “kids’ apps” fails to take into account that apps that developers indicate are directed
toward children are also frequently played by adults, sometimes more so than by children. See
Paragraphs 3.2-3.3 above.

26. In **Paragraph 36** of the FTC Fact Statement, the FTC asserts that Amazon
 acknowledged that the low dollar amount of most in-app charges made them “harder for parents
 to discover,” and that consumers have a “low propensity” for seeking refunds for lower dollar
 charges.

26.1 The above assertions are inconsistent with Amazon’s experiences with
customer refunds and inaccurately portray the behavior of Amazon’s customers. For example, in
FTC Exhibit 141 (quoted in Paragraph 36 of the FTC Fact Statement), Ryan Kortekaas posited

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that the high-price password challenge may “make it harder for the parents to discover” when
children had made low-dollar unwanted in-app purchases, but in the same sentence he noted that
the return rate for these purchases would in fact be higher. *See* FTC Ex. 141 at
Amazon_00236443 (“In essence, this could cause a higher rate of return when the parents figure
it out, but make it harder for the parents to discover.”).

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26.2 Further, Amazon’s e-mail receipts sent to customers immediately after each
in-app purchase is completed would make low-dollar and high-dollar purchases equally
discoverable by customers because the frequency and format of such receipts is identical for all
dollar amounts. These e-mail receipts identify the item purchased and the price paid and include
a link to Amazon’s “Help” page where two topics are “Set Parental Controls for In-App
Purchases” and “Turn Off In-App Purchasing.”

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27. In **Paragraph 37** of the FTC Fact Statement, the FTC asserts that Amazon’s
stated policy is that all in-app charges are final and that the e-mail confirmations Amazon sends
to customers after an in-app purchase is completed do not provide any information about how to
obtain a refund.

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27.1 These assertions do not accurately describe customers’ ability to obtain
refunds from Amazon. Unlike physical products that can be returned to Amazon, put back “on
the shelf” and resold, digital products are immediately consumable (e.g., the game was played or
the video was watched) and therefore the item is not “returnable.” However, Amazon’s policy
and practice has always been to provide “refunds” for accidental purchases of any product,
including “unreturnable” digital products. Consistent with this policy, Amazon instructed its
agents to refund all first-time “accidental” in-app purchases and customer-service agents also
instructed customers how to use Parental Controls to avoid future accidental purchases, promptly
followed up by emails with those same instructions.

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1
2 27.2 Moreover, Amazon's e-mail confirmation does in fact provide customers a
3 means to obtain a refund by directing those customers to Amazon's Help page and the "Contact
4 Us" link located there. Amazon has no evidence to indicate that these e-mail receipts dissuaded
5 customers from contacting Amazon because they did not explicitly state that a refund was
6 available. Rather, Amazon's records indicate that many customers contacted Amazon for
7 refunds during the relevant time period.

8
9 27.3 Finally, when Amazon provides a refund for an in-app purchase, the
10 customer is able to *retain* the in-app item; that is, the children allegedly making those purchases
11 were still able to use ("consume") the virtual item (e.g., acquired and used items, virtual
12 weapons, extra lives, or other enhancements within the app), resulting in an acquisition of the
13 item for free. In other words, customers who received a full refund got their full purchase price
14 reimbursed and they acquired the item they ordered at no charge with whatever accompanying
15 benefit was derived by the customer or the customer's children using the in-app item, which,
16 after all, someone in the household had taken steps to acquire, presumably because they wanted
17 it.

18
19 28. In **Paragraph 38** of the FTC Fact Statement, the FTC asserts that during an eight-
20 month period in 2015, forty-three percent of the emails sent to account holders for digital
21 purchases went unopened.

22
23 28.1 The FTC's assertion does not indicate in any way that customers were not
24 aware of in-app purchases made using their Amazon account. It is unnecessary for a customer to
25 open the email confirmation to recognize that an Amazon purchase had been made, given the
26 email subject line and viewable preview text. For existing Amazon customers who are used to
27 seeing a quick email confirmation after making a purchase online, this is even more self-evident.
28 Moreover, it is reasonable to assume that customers who were expecting a charge would not
29 open an email, while customers receiving an email for a charge they did not recognize would

1 open that email. Therefore, it is reasonable to assume that customers receiving email receipts of
2 in-app purchases they did not expect were within the 57% of customers opening those emails.
3
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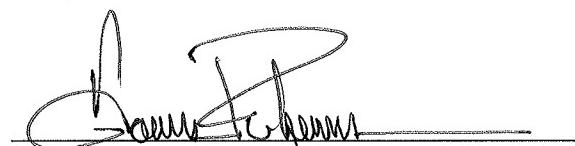
5 29. In Paragraph 39 of the FTC Fact Statement, the FTC asserts that consumers
6 using the Amazon website or their Amazon device to contact customer service can only reach
7 Amazon's "Contact Us" page or "Customer Service portal" by successfully navigating through
8 multiple levels of menus and links.
9
10

11 29.1 The FTC's assertion is incorrect. Googling "contact Amazon" or typing
12 "contact Amazon" into the search bar above Amazon's website results in an immediate display
13 of Amazon's toll-free phone number, in large font. Such easy access is not the case for other
14 online retailers, but it is for Amazon.
15
16

17 30. Since introducing in-app purchasing, Amazon has received volumes of positive
18 customer feedback praising Amazon's tablets, its Appstore, its notices, its Parental Controls, its
19 tools to help manage children's tablet usage, and its easy-to-contact and award-winning customer
20 service.
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31 I declare under penalty of perjury that the foregoing is true and correct.
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35 EXECUTED at Seattle, WA this 22nd day of February, 2016.
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CERTIFICATE OF SERVICE
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I certify that on February 22, 2016, I electronically filed the foregoing Declaration of Aaron Rubenson In Support of Amazon's Opposition to the FTC's Motion for Summary Judgment with the Clerk of the Court using the CM/ECF system, which will send notification of such filing to attorneys of record.

I certify under penalty of perjury that the foregoing is true and correct.

DATED this 22nd day of February, 2016.

s/ Harry H. Schneider, Jr.

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Exhibit A

Exhibit A

TNW



Canvas by Koen Mok

CONFIRMED

You made it! You're worth complaining about.

[Tell Me More](#)

salesforce desk

[HOME](#) / [APPLE](#)

Nielsen reveals most popular Android apps by age. Angry Birds appeals most to over 35s.

by PAUL SAWERS Tweet — 12 Dec '11, 03:56pm in GOOGLE

<http://tnw.to/1CV7O>

11 Con

1 Day left: TNW Europe early bird sales end soon. [Learn more!](#)

Facebook, Gmail, Google Search, Google Maps and YouTube are among the most popular Android smartphone apps in the US across all age-groups, according to Nielsen's latest

research on smartphone usage.

Nielsen's **latest research** on smartphone usage ranked mobile apps by their active reach, looking at the percentage of Android owners who used the app within the past 30 days. Nielsen analyzed data from its device meters on the smartphones of thousands of consumer panelists who agreed to participate in Nielsen's ongoing Smartphone Analytics research.

It turns out that **Android Market** and **Facebook** are the top two most popular apps in the 18-24, 25-34 and 35-44 age groups, with **Gmail**, **Google Maps** and **Google Search** fighting it out for the remaining top-5 apps across the three age-group demographics.

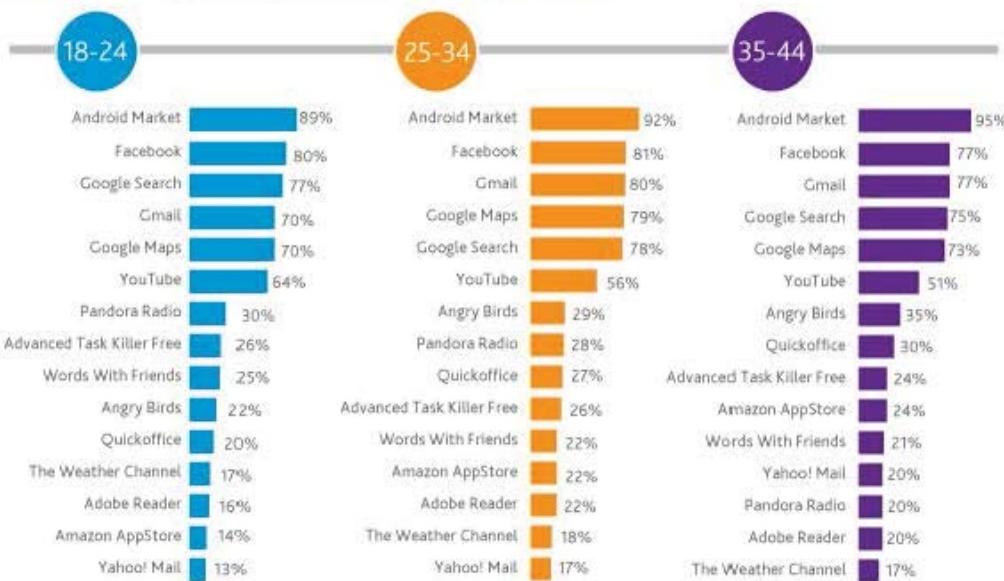
YouTube also fared well across all ages, coming in at number 6 in all groups, but almost two-thirds of all 18-24-year-olds had used it within the past month, compared to 56% and 51% in the 25-34 and 35-44 age-groups respectively. Google products constituted 5 of the top 6 most popular Android apps.

Perhaps surprisingly, Rovio's **Angry Birds** game appealed more to the older demographic, with 35% of 35-44-year-olds playing it recently, compared to only 22% of 18-24-year-olds.

Here's how the top 15 Android apps performed across the age-groups...

Facebook and Google properties dominate Android application usage across age groups

Mobile Application Reach by Age
Nielsen Smartphone Analytics, Device Metering Data, September 2011



Source: Nielsen

nielsen

Exhibit B

Exhibit B

The
Economist

SPECIAL REPORT
VIDEO GAMES
December 10th 2011

All the world's a game



All the world's a game

Video games will be the fastest-growing and most exciting form of mass media over the coming decade, says Tim Cross

IN NOVEMBER 2010 "Call of Duty: Black Ops" was released. Fans in many countries queued round the block to get their hands on a coveted early copy. A lucky few had won tickets to invitation-only release parties which were broadcast live to viewers across the internet. The event had been advertised on billboards, buses and television for weeks. Chrysler even produced a commemorative version of its Jeep. In the event the reviews were mixed, but no matter: the publishers, Activision, notched up worldwide sales of \$650m in the first five days. That made it the most successful launch of an entertainment product ever, and people kept buying. A month later the total stood at over \$1 billion.

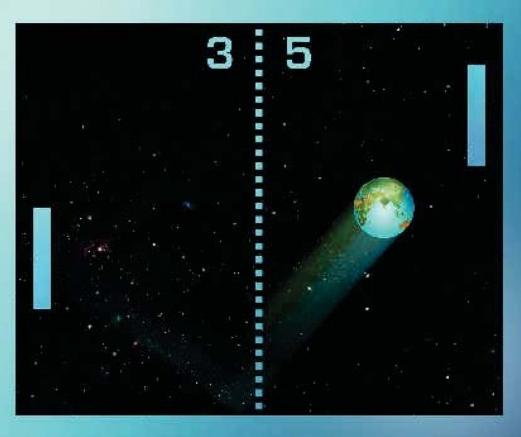
"Black Ops" is not a film or a book: it is a video game. For comparison, "Harry Potter and the Deathly Hallows Part 2", the current record-holder for the fastest-selling film at the box office, clocked up just \$169m of ticket sales on its first weekend. "Black Ops" stole the crown from its predecessor in 2009, "Call of Duty: Modern Warfare 2". The latest installment, "Modern Warfare 3", released on November 8th, set a record of its own with \$750m in its first five days.

Over the past two decades the video-games business has gone from a cottage industry selling to a few niche customers to a fully grown branch of the entertainment industry. According to PricewaterhouseCoopers (PwC),

a consulting firm, the global video-game market was worth around \$56 billion last year. That is more than twice the size of the recorded-music industry, nearly a quarter more than the magazine business and about three-fifths the size of the film industry, counting DVD sales as well as box-office receipts (see chart below). PwC predicts that video games will be the fastest-growing form of media over the next few years, with sales rising to \$82 billion by 2015.

So who plays? The stereotypical image of the gamer—teenaged, male and probably rather nerdy—has hardly changed in 20 years. But it is no longer accurate, if it ever was. Today the average age of players in America, the biggest market, is 37, and 42% of them are female, according to the Entertainment Software Association (ESA), an American trade group. Some 72% of households in America play games of some sort, says the ESA. Even among the over-50s the share is one in three.

One explanation for this coming of age is demography. The first video-gaming generation, which grew up with games arcades and home consoles, is now entering middle age. It seemed likely that some of those who whiled away their youth playing "Space Invaders" and "Galaxian" would stick to their hobby into adulthood. But games companies, readier than other media to chase the "next big thing", have also started looking for new audiences. In recent years they have drawn in ►



ACKNOWLEDGMENTS

Besides those quoted in the text, many others contributed ideas, insights, contacts and suggestions to this special report, including Justin Brown, Jonnie Bryant, Edward Castranova, Sara de Freitas, Katie Goldberg, Vikas Gupta, Aubrey Hesselgren, Tim Luft, Peter Moore, Mike Morhaime, Robert Pike, Nicholas Plott, J.P. Rangaswami, Daniel Stenkoski, John Walker and Nick Yee. Others spoke on condition of anonymity. The author would like to thank them all.

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3 As you like it

There is a video game for every taste

3 Thinking out of the box

Consoles are no longer the only game in town

5 Paying for pixels

Virtual goods are worth real money—and cause real dilemmas

6 Gentlemen, start your computers

Sport by other means

7 No killer app

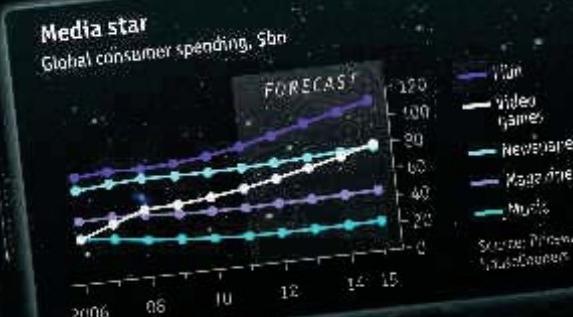
The moral panic about video games is subsiding

8 The play's the thing

What video-game technology can do in the real world

10 Homo ludens

Why video games will be an enduring success



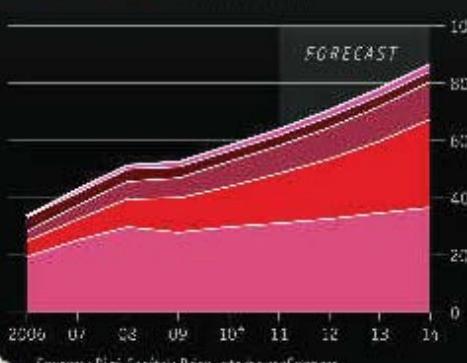
A list of sources is at
Economist.com/specialreports

An audio interview with
the author is at
Economist.com/audiovideo/
specialreports

Shoot 'em up

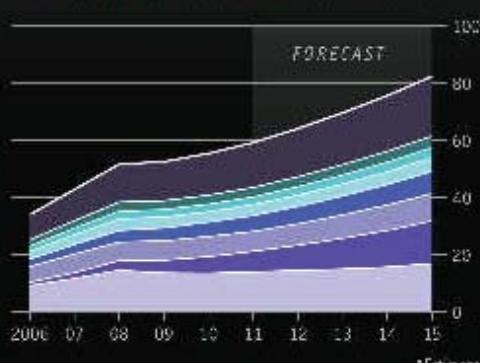
Global video-games revenue, \$bn

Console
Online
Mobile
PC
In-game advertising



Video games, market size, \$bn

US
China
Japan
South Korea
Britain
Germany
France
Others



Sources: Digital Insight; Private manufacturers

US gamers by gender:

58%
42%



► groups such as women, the elderly and middle-aged commuters who would never describe themselves as gamers but are more than happy to play "FarmVille" on Facebook or "Angry Birds" on their smartphones.

The biggest market is America, whose consumers this year are expected to spend \$14.1 billion on games, mostly on the console variety written for Microsoft's Xbox 360, Sony's PlayStation 3 or Nintendo's Wii. Consoles also dominate in Britain, the fifth-largest gaming market. In other parts of Europe, and particularly Germany, PC games are more popular, says Peter Moore, chief operating officer of Electronic Arts, a big games publisher. "German parents tend to see console games as childish, but they think PCs have some education value," he notes.

China is already the second-biggest market and one of the fastest-growing, with sales rising by 20% last year. The high price of consoles and rampant piracy have encouraged the development of online games, mostly played on PCs, which are easier to protect from pirates.

Japan is a law unto itself. It was the second-biggest market until China overtook it earlier this year, but the Japanese idea of fun is different from other people's. Western games that sell well elsewhere tend to struggle there, says Mr Moore, and the same is true of Japanese games in the West. Nobody really knows why. In high-tech South Korea, the fourth-largest market, PCs and online games are also popular, not least because of lingering resentment of Japanese products.

The PlayStation generation

If you had to pinpoint the moment when gaming started to move from niche to mainstream, December 3rd 1994 would be a good date to pick. That was when Sony, a Japanese consumer-electronics giant, launched its PlayStation console. Until then games-console companies, led by Sega and Nintendo, had con-

centrated largely on children and teenagers. Their best-known products featured the adventures of pixelated Italian plumbers and cute cartoon hedgehogs. But the PlayStation's neat design, slick marketing and line-up of big-budget games appealed to young men in their 20s and 30s, says Piers Harding-Rolls of Screen Digest, a firm of media analysts.

Another big event was the launch of Nintendo's Wii console in 2006. This was specifically aimed at women, families and those who had never played video games before. Its user-friendly, simple design, intuitive motion-sensitive controller and light-hearted games based on fitness, sports and the sorts of puzzles found on the back pages of newspapers helped it sell 89m units, half as many again as PlayStation 3 or Xbox 360.

Now the ever-increasing computing power of mobile phones has put the means of playing games into the pockets of people who would never think of spending hundreds of dollars on a dedicated console or a PC. The simple games that came pre-loaded onto the mobile handsets of a decade ago have evolved into a subset of the industry in its own right, appealing to a more casual crowd who play them on trains, in airport departure lounges or while waiting for the washing to finish. Today's smartphones pack far more computing power than the original PlayStation, and games are a big part of their appeal: the two most popular kinds of software on Apple's App Store are games and entertainment.

The internet has played a crucial part in the rise of video games, enabling developers to get their products into their customers' hands without the need for traditional shops or publishers. That has allowed small, independent developers to compete with the big firms who might spend tens of millions of dollars on developing a single title and as much again on marketing it. As a result the industry is becoming increasingly fragmented as its markets become more differentiated.

► The internet has also become a games platform in its own right, making the hobby truly sociable by electronically linking gamers the world over. Millions of people spend many hours each week playing and working (sometimes the distinction is not clear) in virtual places such as "World of Warcraft" and "EVE Online". Hundreds of millions more play free, simple, sociable games on Facebook, such as "Lexulous", which is a bit like Scrabble, and "FarmVille", a game with an agricultural setting. Increasingly the games themselves are free, but the virtual goods available in these online worlds—a stable for one's electronic horses, say, or a particularly pretty shirt for one's digital alter ego to wear—cost real money.

The video-games industry has long been dogged by accusations that violent games breed violent behaviour and that its products can cause addiction. The evidence was never strong in the first place, but the shady reputation has proved hard to shake off. In fact many games do not feature any violence. With the new emphasis on more casual games, some of the most popular titles involve inoffensive pastimes such as constructing electronic cities, completing abstract logic puzzles or managing a virtual football team.

Like all media businesses, the games industry is changing fast. What makes it different from the rest is that it has welcomed change and innovation and thrived on it. It is now growing in all sorts of unexpected ways. For example, the best players can earn money (sometimes a lot of it) from "e-sports"—that is, video games played professionally, in front of a crowd. And after years of talk about an imminent "virtual reality" revolution, it is the games industry that has perfected cheap, convincing simulations of the real world. Technology pioneered by games is now being put to use in fields from military training programmes to molecular biology and virtual showrooms for cars. The industry has even spawned a management technique, "gamification", that applies the psychological principles of game design to motivating workers and engaging customers.

Yet video games are still widely regarded as trivial. This special report will argue that as the newest and fastest-growing form of mass media they deserve to be taken seriously. ■

As you like it

There is a video game for every taste

VIDEO GAMES COME in many guises. There are strategy, adventure, puzzle, sports and business games, first-person and third-person shooters, fantasy and science-fiction role-playing games, fighting games (think of a virtual boxing match), flight simulators and many, many more. The same people will probably play lots of different kinds of games. The archetypal players—young males with plenty of free time and disposable income—are known as hardcore gamers. They tend to use dedicated consoles or powerful PCs, and their games are likely to involve violent action, complicated role-playing or strategy.

In recent years they have been joined by so-called casual players who spend less time, money and attention on simpler games, often played on mobile phones or

online. Action and strategy titles are available for such users too, but they tend to be less complex. The classical casual genre is puzzle games—abstract brain-teasers such as the venerable "Tetris" or modern titles like "Dr Kawashima's Brain Training".

The internet offers more possibilities. "Massively multiplayer" games are played by hundreds or thousands of people simultaneously, all inhabiting the same virtual world, hosted on a remote server. The iconic example is the fantasy-themed "World of Warcraft". Life in such worlds goes on regardless of whether an individual gamer is playing or not. On a different note, social games mix the community feel of social-networking sites with game-play mechanics, encouraging friends and acquaintances to play together.

The business of gaming

Thinking out of the box

Consoles are no longer the only game in town

THE IDEA BEHIND video games used to be simple. Nintendo, Microsoft, Sony, Sega and others sold consoles at a loss and made their money from the boxed games they produced for them. The punters, mostly young technophile men, bought the games from a shop, played them for a few weeks and then put them away.

Those customers are still around, but they have been joined by a plethora of others. New, more casual sorts of games are being picked up by a mass audience that would previously not have played at all. "In the past few years two things have changed," says Mr Moore of Electronic Arts. "The first is the proliferation of platforms [on which to play games], and the second is that it's become so much easier to call yourself a gamer."

So the industry has branched out into a bewildering variety of sub-sectors and niches. At one extreme, companies in the traditional sector are still charging \$50 or \$60 for high-end console games with ultra-realistic graphics and cinematic game play. At the other, a shoal of smaller firms is developing simpler, more casual games aimed at a much larger and more diverse group of customers. In between, a mix of established firms and start-ups are testing new ways to develop games and new business models for selling them.

One of the biggest changes has been the rise of the mobile phone as a gaming device. Games specifically designed to be played on mobile phones already account for \$8 billion of the \$56 billion global games market, even though they typically sell at less than a tenth the price of a traditional console game. Such mobile games are simpler to play and require less time and dedication than the console titles. Their relatively low development costs and the fact that they can be downloaded over mobile networks brings them into impulse-buy territory, says Mr Harding-Rolls at Screen Digest.

Playing on the move

The potential market is huge. The number of mobile-phone subscriptions worldwide is over 5 billion. Last year 1.6 billion handsets were sold, a 31% rise on 2009. That is attracting attention from big, established firms such as THQ, an American publisher and developer of video games, and Square Enix, a Japanese publisher and developer that has a dedicated mobile division.

But many games for mobile phones are made by small start-ups, attracted by low entry costs. The best-known example is "Angry Birds", released in 2009 by Rovio Mobile, a Finnish firm with just 55 employees. It is a light-hearted affair in which vengeful player-controlled birds hurl themselves at fortifications built by a group of egg-snatching green pigs. In ►

► terms of sales, it is among the most popular games ever made, with total downloads of more than 500m (the game is available in a free but limited edition as well as in a standard, paid-for version). By contrast, a console game is reckoned to have done well if it sells a couple of million copies.

Games are proving a popular application for mobile phones, and especially for the latest generation of smartphones such as Apple's iPhone. PwC expects the market for such apps to grow from around \$7 billion last year to \$35 billion in 2015, and much of that growth is likely to be driven by games. They accounted for more than half of the 100 most popular apps for the iPhone in 2010 and make up a large chunk of the software market for other brands of smartphone too (see chart 1).

Online orcs

Thanks to the spread of high-speed internet connections, the web has emerged as a games platform in its own right. Blizzard Entertainment's "World of Warcraft", an intricate online fantasy world filled with orcs and dragons, attracts around 9m regular users, each of whom pays a monthly subscription fee of around \$10 to play.

As with mobile games, much of the interest in online gaming revolves around attracting a new, more casual kind of player. Again, the potential market is vast. Companies such as PopCap, a Seattle-based games studio, specialise in easy-going games that run in ordinary web browsers. PopCap's most successful game to date is "Bejeweled", an abstract puzzle game in which users have to create patterns in a grid of coloured gems. It is easy to pick up but difficult to master, and can be played for a few minutes at a time. In 2010 sales of the full version, which sells for about \$20, passed 50m.

Even more dramatic has been the rise of social-networking sites as venues for video gaming. As with mobile phones, one attraction for developers is the potential size of the audience. Facebook, the biggest, claims 800m users each month, most of whom are fairly new to gaming.

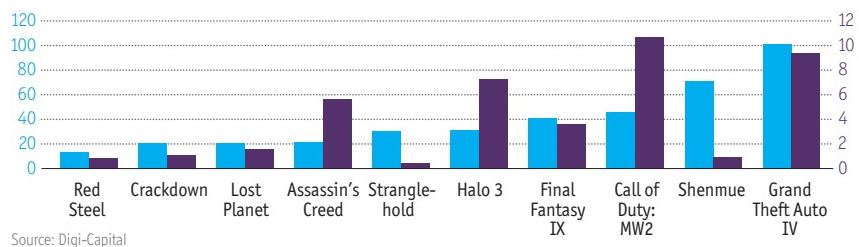
Games make up half of the 40 most popular applications on Facebook. Some are simply electronic takes on existing real-world pastimes, such as "Texas Hold'em", a poker game with 30m users a month, or "Slotomania", a digital version of slot machines (that can be played with or without real money) with 5m devotees. The most popular games command enormous audiences. "CityVille", an urban-planning game and the most popular Facebook game at the moment (though tastes are fickle), attracts 51m users a month.

Its San Francisco-based developer, Zynga, specialises in social-networking games. Set up in 2007, it now has 2,000 employees and revenues of around \$850m a year.

One reason why these games are so successful is that they help people do something they are already keen on: keeping up with their friends online.

Win some, lose some

Estimated development cost, \$m



Source: Digi-Capital

2

In "CityVille", for instance, there are incentives for players to help with the running of other cities managed by their friends. Unlike traditional console games and even many mobile ones, these games do not demand the players' full attention but are designed to be dipped into in short bursts. And they are free to play, at least for users who are prepared to do without frills and extras, which are often bought for real money (see box, next page).

Moreover, the designers are able to collect lots of information on exactly how users are playing the games online and can tweak them to suit the players' latest whims. "You spend single-digit millions, work for six months, put your game out there, study the telemetry to learn very quickly what people like and what they don't, and refine the product from there," says Frank Gibeau, a senior manager at Electronic Arts. By contrast, a typical console game may cost \$20m-30m to make and take several hundred people and two years or more to develop (see chart 2).

For all the promise of the new, more casual games, the console-based ones still account for \$28 billion of the industry's global sales of \$58 billion. But the balance is changing. Sales of console games will be flat at best for the foreseeable future, reckons Tim Merel of Digi-bank, an investment bank that specialises in the games business, whereas mobile and online games will continue to grow rapidly, keeping the industry's overall growth rate above 8% a year. By 2014, reckons Mr Merel, mobile and online gaming will account for half the industry's revenue.

Unpacked

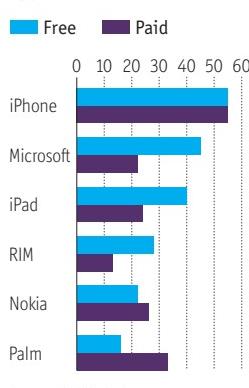
A new generation of consoles, offering better graphics and more internet connectivity, will go on sale from next year, when Nintendo releases the Wii U, the successor to its popular Wii machine. Microsoft and Sony are expected to follow suit in 2013 or 2014 with sequels to their machines. But some analysts now wonder whether dedicated games consoles have much of a long-term future. Michael Pachter of Wedbush Securities reckons that the coming generation of consoles could be the last. For all but the most devoted users paying \$300 for a dedicated machine that takes up space in the living room makes little sense when, for a little more, you can buy a smartphone or a tablet PC that has plenty of other uses as well.

The industry likes to boast that it has become a bit like Hollywood, says Rod Cousens, the boss of Codemasters, a mid-sized British games developer. But at least the big Hollywood studios spread their risk across at least ten films a year, whereas games developers tend to work on one at a time. This is now an expensive, risky and hit-driven business, so the developers have become deeply conservative, preferring to build on past successes rather than try something new. Every one of the ten bestselling console games in America last year was a sequel or a development of an existing franchise.

The console-makers are well aware of this. Nintendo helped to pioneer the idea that games could appeal to a much

Fun by phone

Games' share of top 100 apps by platform, 2010, %



Source: Digi-Capital

► wider audience. Its Wii console has sold 89m units over the half-decade since its launch, outdoing both Sony's PlayStation 3 (56m) and Microsoft's Xbox 360 (58m), largely thanks to a games catalogue aimed at casual fans. It features titles like "Wii Fit" (a fitness game) and "Wii Sports", a version of sports like golf, tennis and ten-pin bowling. The Xbox, PlayStation 3 and Wii all have their own online shops that allow consumers to download games directly to their consoles, and all three are encouraging developers to make casual games for them. Mr Merel thinks the console business will remain a smaller though mostly profitable niche within a games industry that will range over a wide vari-

ety of platforms and attract a much more mainstream audience.

Categories such as "casual" or "online" games are not always neat and tidy. Not all online games are aimed at casual users. "Minecraft", developed by Mojang, a tiny Swedish firm, is an online adventure game that mixes the building qualities of Lego with the social appeal of "World of Warcraft". Despite its basic graphics and intricate gameplay it has sold over 4m copies. Conversely, some recent smartphone games have almost console-quality graphics and involving storylines. Development costs are already ticking up. The only safe bet about the future is that it will be more fragmented and more diverse than the past. ■

Paying for pixels

Virtual goods are worth real money—and cause real dilemmas

CASUAL GAMES MAY attract huge audiences, but it is harder to convert those millions of eyeballs staring at screens into hands reaching for wallets. Piers Harding-Rolls at Screen Digest reckons that the 57m or so game consoles in use in America generate about \$7.5 billion of revenue each year, but the 109m players of casual online games produce just \$250m.

Casual-game firms are testing a variety of ways to make more money from their users, from straightforward digital sales to subscriptions and advertising. One promising model comes from East Asia, gaming's spiritual home, where internet access is widely available and piracy is rampant. It involves giving users free access to online games but then charging them for all sorts of extras.

One Western example is "The Lord of the Rings Online", which allows players to live in an online version of J.R.R. Tolkien's fantasy world. When the game was released in 2007, players had to buy the game for \$40 and then pay a subscription for each month they played. Last year Turbine, the game's developers, moved to a new charging model in which the game was made available for nothing but players could spend real-world money on "Turbine Points", a sort of electronic currency with which to buy items that make the player more powerful. Turbine says its revenue from the game tripled.

In "FarmVille", Zynga's wildly popular Facebook-based farming simulator, players can earn coins to spend on crops, livestock or farm equipment by playing the game, or they can buy them with real cash. Such transactions make up the bulk of Zynga's revenues.

Not all virtual goods offer players an in-game advantage. "Vanity items" such as a new design for the electronic homestead are just nice to have. Spending real money on virtual luxuries may seem odd, but a

minority of dedicated players wants to show off to others online, says Nick Lovell of Gamesbrief, a games-business website. "You make 80% of your revenue from 20% of your player base," he adds. A few of them will shell out eye-watering amounts of money. In Dark Orbit, a browser-based space adventure from Bigpoint, a German online-game studio, customers can buy a "10th drone" to beef up their spaceship for around €1,000. BigPoint has sold more than 2,000 of them this year.

This sort of trade allows players to work out a real-world value for their in-game items (and makes it possible for economists to calculate the GDP of virtual worlds). Some players sell desirable items to other players for real cash, a practice chronicled by Julian Dibbell in his 2006 book, "Play Money", in which he earned up to \$3,000 a month trading in virtual goods. Such reselling is generally forbidden by the games companies, though there are exceptions, including "Second Life", a virtual world run by the American firm Linden Lab. But the players themselves treat their virtual goods as if they were real and can become extremely possessive about them. In 2005 a Chinese player, Qiu Chengwei, killed a fellow-player of "The Legend of Mir 3" for selling (on eBay) a rare virtual sword that Mr Qiu had lent him. He is now serving a life sentence.

All this raises some intriguing questions for governments. Should virtual income be reported to the real-world taxman? China thinks so, in principle at least: it has said it wants to tax its virtual-goods market, thought to be worth around \$1.5 billion a year, although how the tax would work is not clear. The South Korean authorities have ruled that trading in virtual goods should be subject to a 10% sales tax. America's Internal Revenue Service is wrestling with the same problem. And if a games company goes bust, can its players claim

compensation for loss of valuable property? After all, "some players have accumulated wealth worth thousands of dollars in these games," says Eyjolfur Gudmundsson, chief economist at Iceland's CCP Games, which makes the sci-fi trading game EVE Online.

In 2010 South Korea's highest court ruled that, against the wishes of the games companies, players' virtual cash could indeed be converted freely into real-world money, provided it was generated in a game of skill rather than won in a game of chance. It is only a matter of time, says Roxanne Christ, a lawyer at Latham & Watkins, before Western courts will be faced with the same questions.



E-sports

Gentlemen, start your computers

Sport by other means

IN ONE CORNER was Greg Fields, a talented young player whose psychological demons had so far stopped him from realising his full potential. In the other was Lim Yo-Hwan, an old master with a string of titles and championships, still a ferocious competitor, but one whose glory days were probably over. Mr Fields had already racked up a 3-0 lead in their best-of-seven series, but over the next 30 minutes Mr Lim put on a dazzling display of calculated risk-taking and exquisite control and won the next game, then another and another, levelling the series at three games apiece.

The game being played was "StarCraft 2", a strategy game designed by Blizzard Entertainment, an American developer, featuring three clashing science-fiction armies. The matches were part of a three-day tournament run in Orlando, Florida, by Major League Gaming (MLG), an American firm that organises "e-sports" events around the country. Besides "StarCraft 2", players can compete for thousands of dollars of prize money in "Halo: Reach", a sci-fi shooter, or "Call of Duty: Modern Warfare 2", a war game.

The idea of staging video-game tournaments for money has been around for a while. In 1997 Dennis Fong, an American gamer, won a Ferrari with his brilliant playing of "Quake", an early first-person shooter. Since then professional players have also done well with other games—such as "CounterStrike", another shooter, or "Warcraft 3", a strategy game. The predecessor game of "StarCraft 2" has been on cable television in South Korea

for more than a decade. Good players there can make a reasonable living from salaries, sponsorship and prize money, and the very best can earn hundreds of thousands of dollars a year. Yet although MLG and similar organisations have been hosting tournaments for years, professional gaming has been slower to catch on in the West.

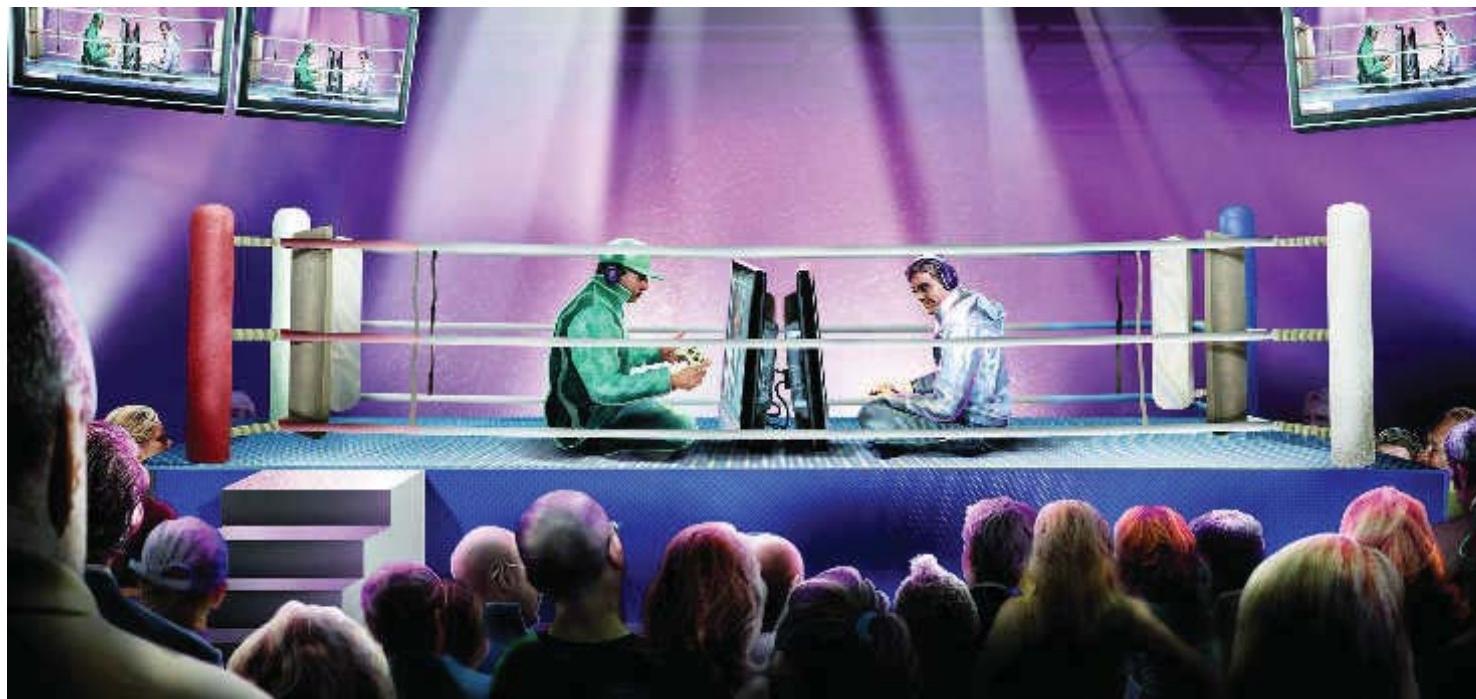
After the release of "StarCraft 2", that seems to be changing. Each of MLG's events this year has set new viewing records. Besides the 15,000 who attended in person, the online live audience for the Orlando tournament peaked at more than 181,000 people in 163 countries.

MLG is only one of a number of firms offering such contests. They range from weekly online-only events that pay out \$100 all the way up to glitzy affairs like the Global StarCraft League, a South Korean tournament that pays out 145m won (\$127,000) every couple of months. IGN, a gaming website owned by News Corporation, runs the IGN Pro League, which

Good players can make a reasonable living from salaries, sponsorship and prize money, and the very best can earn hundreds of thousands of dollars a year

offers \$30,000 to its champion. Sweden plays host to DreamHack, a twice-yearly games party with a prize pool of 400,000 kroner (\$57,000). The best players can make serious money (see table 3, next page), but Shawn Simon, an American "StarCraft 2" professional, reckons that, even outside that elite, "StarCraft 2" alone probably provides a living for about 100 players worldwide. "I've been continually shocked by how fast it's grown," says Dustin Browder, the game's chief designer.

Sundance diGiovanni, MLG's founder and chief executive, concedes that many people still think playing video games for money is a strange idea. Like any sport, video games have a culture that can be baffling to outsiders. Rather like professional wrestlers, gamers tend to play under pseudonyms, so Messrs Fields, Lim and Simon are known to their fans as "IdrA", "Boxer" ►



Play and be paid

3

Top "StarCraft 2" players
March 2010–November 2011

Player	Winnings, \$'000
Lim "NesTea" Jae Duk	227
Jeong "Mvp" Jong Hyeon	227
Jang "MC" Min Chul	222
Choi "Polt" Seong Hun	109
Lee "MarineKing" Jung Hoon	105
Kim "Fruit- Dealer" Won Gi	102
Mun "MMA" Seong-Won	99
Lee "PuMa" Ho Joon	76
Ilyes "Stephano" Satouri	73
Lee "Leenock" Dong Nyung	63
South Korea	France

Sources: Sc2earnings.com; *The Economist*

play against professionals, which would be unthinkable in, say, professional football or basketball. Thanks to video-streaming sites like Justin.tv, players can broadcast their practice sessions online and chat with fans in real time, and enthusiastic amateurs can televise tournaments organised in their living rooms.

Game designers can help, too. "StarCraft 2" was conceived from the start to offer a good experience for spectators, says Mr Browder. It may be hard for new viewers to appreciate the players' skill, at least until they try it themselves, but the game is meant to be appealing to everyone. So for newcomers who have yet to master the finer points, "we can offer the visual spectacle of alien races battling to the death for your own amusement."

Winning streak

Other developers are piling in. Riot Games is pushing "League of Legends", a free-to-play fantasy team game played online by around 4m people every day that often attracts more viewers than StarCraft 2 to its professional matches. For the game's second season of competitive play the company is offering a \$5m prize pool. Valve, another big PC developer, is hoping to break in with "Defence of the Ancients 2", a direct rival to "League of Legends"; in August this year it hosted a tournament for an early version of the game with a first prize of \$1m.

The buzz around these games is helping to attract interest from sponsors. Big brands such as Coca-Cola, Red Bull, Samsung and Intel have all sponsored tournaments recently. They see this as a good way of getting exposure to a sought-after but hard-to-reach group of people: males in their late teens and early 20s, who make up the bulk of the audience. And many of the fans are unusually dedicated. One of those who attended MLG's Orlando event had come all the way from California. Another had bet a tattoo on the outcome of one match. And when it emerged that the Korean StarCraft pro Lee Jung-Hoon (a.k.a. "Marine-King"), a favourite with the fans, would not be able to get to Orlando, a donation drive raised the \$3,500 needed to fly him there for the weekend.

And Mr Lim? Alas, his comeback was not to be. Mr Fields held his nerve and, to the crowd's cheers, took the final game. ■

and "Sheth". Some critics are bothered by the absence of physical exertion, but that never held back chess.

E-sports can be a boom-and-bust business, says Mr di Giovanni, with fans' interest waxing as a big new game is released and then waning again; and it is definitely for the cognoscenti. Yet the overall trend is strongly upwards. One reason, says Sean Plott, a "StarCraft" player turned commentator, is generational: video games are becoming more mainstream as the people who grew up playing them for fun turn into adults with the disposable income to spend on watching the pros.

Technology has made it easier to build tightly knit fan communities. Web-gaming services such as Microsoft's Xbox Live or Blizzard's Battle.net offer skilled amateurs a chance to

Violence and addiction**No killer app****The moral panic about video games is subsiding**

IN THE LATE morning of April 20th 1999 a pair of teenagers, Dylan Klebold and Eric Harris, walked into the cafeteria at Columbine High School in Colorado and began gunning down their classmates. The two senior-year students killed 13 people in a 45-minute rampage before turning their weapons on themselves. The massacre remains the deadliest high-school shooting in American history.

In the days after the killings it emerged that, besides enjoying violent movies, the two liked playing "Doom", a gory video game from the mid-1990s in which the heavily armed players use shotguns and rocket launchers to dispose of legions of zombies and demons. Parents, politicians and psychiatrists fretted that exposure to virtual violence had prepared the ground for the real-world killings. Two years later the parents of some of the victims sued dozens of gaming companies, including id Software, the developers of "Doom", alleging that their products had contributed to the murders.

The massacre fed long-standing worries about video games, particularly in America, the industry's biggest national market. Governments from California to Switzerland have tried to ban the sale of violent games to children, and most countries have an age-rating system similar to that for films.

However, since gaming has become more mainstream, the proportion of violent games has fallen. According to vgchartz, a website that tracks games sales, the ten bestselling console games of 2010 included just three violent shooters. The rest were inoffensive sports and fitness titles, a Super Mario platform-jumping game and a Pokémon product, a cartoony franchise of games based on a Japanese TV series for children. Many games that do feature violence serve up a slapstick version. The sort of gruesomely realistic killings found in serious war films are rare.

Still, many games require the player to dispose of great numbers of Nazis, gangsters, aliens and other bad guys. A few games serve up stylised violence for its own sake. And the critics say there is a crucial difference between films, plays or books, where the players are just passive onlookers, and video games, where they are active participants in the simulated slayings. That, the argument goes, makes it more likely that they will resort to violence in the real world, too.

It's all in the mind

But the evidence is hard to pin down. Violent crime in America, Britain and Japan, the three biggest video-game markets, has dropped over the past decade at the same time as sales of video games have soared (see chart 4, next page). That does not, by itself, exonerate the industry—after all, without games violent crime might have fallen still further. And several studies purport to show that playing violent video games raises aggression levels. But Chris Ferguson, a psychologist at Texas A&M International University, points out that much of this work is of poor quality. In a meta-analysis published in 2007, he found no evidence that games made their players violent. Indeed, after decades of research, he has concluded that violence in any media has little or no effect on their consumers. A review commissioned by the Australian attorney-general, published last year, ►

Not proven

United States:



backed this up.

But might players not get addicted to gaming? In 1983 David Sudnow, a sociologist, wrote a bestselling book, "Pilgrim in the Micro-world", in which he described his obsession with a game called "Breakout". It consists of the player bouncing a ball off a paddle to destroy a collection of bricks on the screen. "Thirty seconds of play...and I'm on a whole new plane of being, all synapses wailing," he wrote.

That sensation of losing track of time will be familiar to most gamers. Again, critics point to the interactive nature of video games, which allows their designers to tweak risks and rewards to make them irresistible. Some countries, including China and South Korea, are attempting to limit the number of hours that youngsters can play online games. Even game developers themselves have expressed concern about online games that rely on keeping players hooked. But there is no suggestion that games are addictive in the sense that they create physical dependence in their players. That makes them akin to other compelling but legal pastimes, such as gambling, following a football club or collecting stamps.

There is a long tradition of dire warnings about new forms of media, from translations of the Bible into vernacular languages to cinema and rock music. But as time passes such novelties become uncontroversial, and eventually some of them are elevated into art forms. That mellowing process may already be under way as the average game-player gets older. Mr Ferguson notes wryly that the latest targets of attack are social media such as Facebook and Twitter, which are said to expose children to paedophiles, invade their users' privacy and facilitate riots. Perhaps video games are not so bad. ■

Alternative uses

The play's the thing

What video-game technology can do in the real world

A DECADE AGO the computer industry was abuzz with talk about "virtual reality" that would allow the construction of convincing digital facsimiles of the real world. As it turns out, the games industry has come quite close to delivering this. Modern games use cheap hardware and software to create three-dimensional worlds with convincing textures and lighting, objects that obey real-world laws of physics and realistic sounds. Such worlds are constructed mostly to allow players to race fantasy cars across them or defend them from invading aliens. But they also have more practical uses.

Codemasters is a British developer that specialises in driving games, including a Formula One racing simulator. Its fans demand a faithful recreation of the experience, says Rod Cousens, its chief executive. The firm's software can simulate real-world cars in almost every detail, and the circuits within the game are



true-to-life recreations of racecourses such as Silverstone and Monza. When Formula One went to India for the first time this year, the virtual version of the track was ready before the real one; several drivers took advantage of his company's software to practise. "We can recreate every aspect of the track from data given to us by the F1 authorities", explains Mr Cousens.

Toy soldiers

Warfare seems an obvious application for games technology. "Steel Beasts", a tank-warfare simulation game developed by California-based eSim Games, is reportedly being used by several Western armies. The Canadian, British and Australian armed forces have experimented with training their soldiers on "Virtual Battle Space 2", a tweaked version of "Arma 2", a military wargame developed by Bohemia Interactive, a Czech games firm. Players take on the role of an individual soldier alongside dozens of other human allies or opponents. They can issue commands to computer-controlled squadmates, fire virtual versions of a variety of weapons used by armies around the world and drive tanks and armoured vehicles, all in an environment of hundreds of square kilometres that alternates between day and night and offers weather effects such as fog and rain.

Armies have long used machines to simulate expensive bits of kit such as jet fighters or tanks, says Peter Morrison, who runs the part of Bohemia Interactive that focuses on the military market. But simulating the experience of individual soldiers is something new. Cost apart, his products offer other advantages over the real world. If a commander wants his troops to practise infantry combat in the fog, he does not have to wait for the weather to oblige; he can conjure it up on his computer.

Satellite images and geographical data can be fed into the software to generate virtual representations of real places, allowing soldiers to rehearse specific missions. "It's quite likely that the [American special forces] team that killed Osama bin Laden would have rehearsed the raid in some sort of virtual environment," says someone familiar with the military-training business. And since everything the soldiers do is recorded by their computers, data from the mission can be analysed afterwards.

There are lots of other possibilities. In 2002 the United States army released "America's Army", a game based on a com-



►mercial software package used in dozens of straightforward consumer games, as a recruitment tool. It has been downloaded millions of times and is still played online.

Companies are getting interested too. Business-simulation games are available for everyone from managers to call-centre workers and have been used by companies from Coca-Cola to Shell. "Doing this sort of business education as a game can make it more compelling than a traditional chalk-and-blackboard approach," says Tim Luft, of the Serious Games Institute, a research outfit in Coventry, England. His researchers are working on virtual stores for a retail firm and a three-dimensional computer version of the city of Coventry for use by architects and planners in local government. "Big companies could build this kind of software in-house," Mr Cousins concedes. "But why would they? We've spent years and millions of dollars getting it just right. It's easier to just buy it off the shelf."

Even as software written for the games industry is being put to serious uses, the element of fun in games is being exploited through the latest management tool, "gamification". This relies on working out what makes video games enjoyable and applying the same techniques to other kinds of activities, from running a business to tackling tricky scientific problems. It may seem a strange notion, but there is something in it. A good example comes from molecular biology—more specifically, the quest to understand the way in which proteins fold.

Proteins are complicated chemicals made of long chains of amino acids, the tiny chemical building blocks of life. Those chains can fold up in billions of different ways, and the process by which they arrive at the correct one is still poorly understood. It is vitally important, because misfolded proteins either do not work at all or do things that they shouldn't. Badly folded proteins are implicated in various forms of cancer as well as neurological diseases such as Alzheimer's and Parkinson's.

Computers can recognise a well-folded protein when presented with one, but actually finding it calls for the sort of pattern recognition and lateral thinking that they struggle with. Scientists have tried to deal with the problem by using enormous computing power to sift systematically through billions of possible configurations. But in 2008 a team from the University of Washington tried a different approach.

They released a program called "Foldit" that turned protein-folding into a free online puzzle game. Players are presented with a protein and given the task of finding its most energy-efficient shape by fiddling with its structure. A better shape means a higher score; dramatic progress is rewarded with lots of extra points, pleasing sound effects and a little shower of virtual streamers. The controls are simple and intuitive, and there are friendly tutorials to tell novices what to do. Online leaderboards let players compare solutions to foster competition.

By turning their problem into a game, the scientists have harnessed thousands of human brains without specialist knowledge to work on protein-folding, says Adrien Treuille, a computer scientist at the University of Columbia who helped to develop the program. "We wanted a toy," he says, "something so beautiful and such fun that you could pick it up and start playing with it without any formal training." Vital lessons were learned from professional games developers. "We needed to have a very vivid representation of what was going on. We needed an intuitive interface, and something called 'juiciness'—a game-designer's term for lots of instant positive feedback."

"Foldit" and its 46,000-plus users have already made serious contributions to biology. A paper published in the September issue of *Nature Structural and Molecular Biology* shows that "Foldit" players were better than any computer algorithm at modelling the structure of a protein used by retroviruses such as HIV, which causes AIDS. And in the best video-game tradition a sequel, called "EteRNA", is already in the works. It will allow users to investigate RNA synthesis.

In business, gamification has become increasingly fashionable over the past year or two. The point about games is that they make players want to perform difficult tasks and pay for the privilege, says Brian Burke of Gartner, a consultancy. Gamifiers try to capture that sense of engagement by providing rapid, continuous feedback, a clear sense of progression and goals that are challenging enough to maintain interest but not so hard as to put players off. One example is FourSquare, a social network (and rival to Facebook) that lets users post their present location for their friends to see. Those who visit a particular place (such as a restaurant or a pub) are given badges. The most dedicated are awarded titles such as "Adventurer" (for ticking ten separate locations) and may be crowned "mayor" of the place. A text-based scoring system is keeping people engaged. Since its launch in 2009 the service has picked up more than 10m users.

Easy, peasy

Another example comes from Britain's Department for Work and Pensions, which is offering a gamified version of a suggestion box. Staff who come up with ideas to improve the business are awarded points called "DWPEas" that can be invested in promising suggestions made by other people. If the boss gives the go-ahead, the investors get their points back with interest, thus increasing their total. A leaderboard and a "buzz index" provide the element of competition.

But not everyone is convinced. A lot of gamification efforts do not seem to offer anything very different from the old rules of good management. The motivating power of competition and leaderboards are familiar to sales managers, who have had salesman-of-the-month contests for many years. Games designers themselves say that the emphasis on rewards and feedback systems may be missing the point: if the job itself is tedious and repetitive, such bells and whistles can come across as patronising. Mr Burke accepts this. "Gamification can be powerful, but you have to use it carefully," he says. "A lot of what's going on at the moment is driven by little more than novelty and hype." ■



The importance of fun

Homo ludens

Why video games will be an enduring success

WHICH WAS THE very first video game? One plausible candidate is "Nim", a mathematical game with roots in China. It was played on NIMROD, a computer created by Ferranti, an electronics firm, for the 1951 Festival of Britain. In 1952 Alexander Douglas, a British computer scientist, wrote a version of noughts and crosses for the pioneering EDSAC computer at the University of Cambridge. Shooting games made their debut with "Space-war!", written in 1961 by students at the Massachusetts Institute of Technology for a basic computer called the PDP-1. In the post-war years computing was a brand new technology, but games seem to have been among the first applications that the creators of those early computers thought of.

Half a century later they have become the most exciting branch of the entertainment industry. They are a "killer app" that is helping to drive mobile-phone sales, and a key ingredient in the popularity of social-networking sites.

Should other media firms worry that games will take over? The numbers can look ominous. In revenue terms, video games already dwarf radio. They are twice the size of the music business and by 2015 will be worth more than the newspaper industry. Just before the recession the games industry was growing by 20-25% a year. Things have slowed down since then, but gaming is still expected to grow by an average of over 8% a year between now and 2015, and is likely to remain the fastest-growing part of the media industry over that period.

The history of media technologies suggests that it is rare for any of them to be entirely superseded by others. Long-playing

The main reason why games are different is that they marry the power of modern technology to the insatiable human desire for play

records did not make live concerts obsolete. Television did not kill radio. Books still sell in the age of the internet. This is known as "Riepl's law", after a German newspaper editor who first noticed the effect in 1913. The chances are that, even if video games overtake books and television (and they are still a long way from doing so), the earlier forms will survive alongside them.

That is not to say that they will remain untouched. Video games will influence other parts of the entertainment industry and in turn be influenced by them. For example, "The Matrix", a film that first appeared in 1999, had two sequels that could be fully understood only by playing a video game called "Enter the Matrix". The game continued after the third film as "The Matrix Online", an internet-based multiplayer version that ran until 2009. Video games based on popular films or novels have been around for a long time, but now the ideas are beginning to flow the other way. Books based on the "Halo" series of sci-fi shooting games, for instance, have sold over 1m copies.

Sometimes games have offered a new way for old media to make money. Musical games such as "Rock Band" and "Guitar Hero" marry the video-games industry with the music business. These games use controllers shaped like guitars, drums and mi-

crophones to let players step into the shoes of their favourite bands. The first licensed use of the Beatles' music outside their own albums, in 2009, came in the shape of "The Beatles: Rock Band", a game rumoured to have earned the Fab Four tens of millions of dollars in royalties.

But there is something fundamentally different about games that sets them apart from traditional media such as books and films. Games developers say that technology is pushing back the frontiers of their business in a way that is simply not open to, say, books or radio. They point to improving graphics, better artificial intelligence and bigger worlds featured in their products. The more business-minded may argue that games offer better value for money than films do. Some will say that it is a generational thing, and that people who use computers in every area of life will naturally expect to use them for entertainment as well.

All these things are true. But the main reason why games are different is that, rather than being consumed passively like all the other media, they are interactive, marrying the power of modern technology to the human desire for play. The compulsion to play is hard-wired into the human race. It is the way people learn. Organised play offers a (fairly) safe outlet for competitive impulses that might otherwise get out of hand. Games, sports and contests feature in every documented human culture. People fill their leisure time with a dizzying variety of games, both sporty and brainy, and as participants as well as spectators. The final match in the 2010s soccer World Cup was watched by hundred of millions of people, making this one of the most widely shared cultural events in history.

What the video-games industry has done is to make much of this activity better and more convenient for the players. Video games can offer anything from electronic versions of traditional pastimes, such as poker or rugby, to totally new experiences, such as abstract brain-teasers, simulations of warfare and intricate alternative realities. Consoles provide a cinematic treat in the living room; mobile phones a quick fix on the move. Thanks to the internet, opponents and team mates are never more than a few clicks away. Anyone equipped with the appropriate hardware—which in rich countries is becoming ever more affordable, as well as ever more varied—can now play any game they like, whenever and wherever they want, with anyone they choose. Ultimately the market for electronic games is limited only by the world's appetite for fun and enjoyment. ■

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Exhibit C

Exhibit C

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HOME > MOBILE >

70% of smartphone users spend 15 minutes daily on gaming; Subway Surfers most engaging game: Nielsen

September 12, 2013 | Anand Rai



Gaming has always been one of the most popular activities on smartphones (even before the smartphone era we were hooked on games like Snake and Tetris), so much so that 7 of 10 users (70 per cent) spend close to 15 minutes a day on games, or seven and a half hours on a monthly basis, according to a study by Nielsen Informate Mobile Insights, which reveal insights about different gaming habits of smartphone users.

While most gamers are light gamers and spend just over two minutes a day on gaming, but 1 out of every 7 are heavy gamers and spend over an hour each day on gaming (that's like over a day every month!).

Segmenting gamers

Smartphone users can be segmented into heavy, medium and light gamers- based on the time they spend gaming. Majority of gamers (67 per cent) are light gamers and spend under 10 minutes / day on gaming, medium gamers (19 per cent) spend anywhere between 10 to 30 mins / day on the same. In contrast, heavy gamers (14%) spend over half an hour on a daily basis playing games on their smartphones.

Not surprisingly, heavy gamers also install the most games each month indicating a higher propensity to actively seek out more games. Heavy gamers were downloading at least five games per month, medium download four and light gamers download only two.



Source: Nielsen Informate Mobile Insights July '13

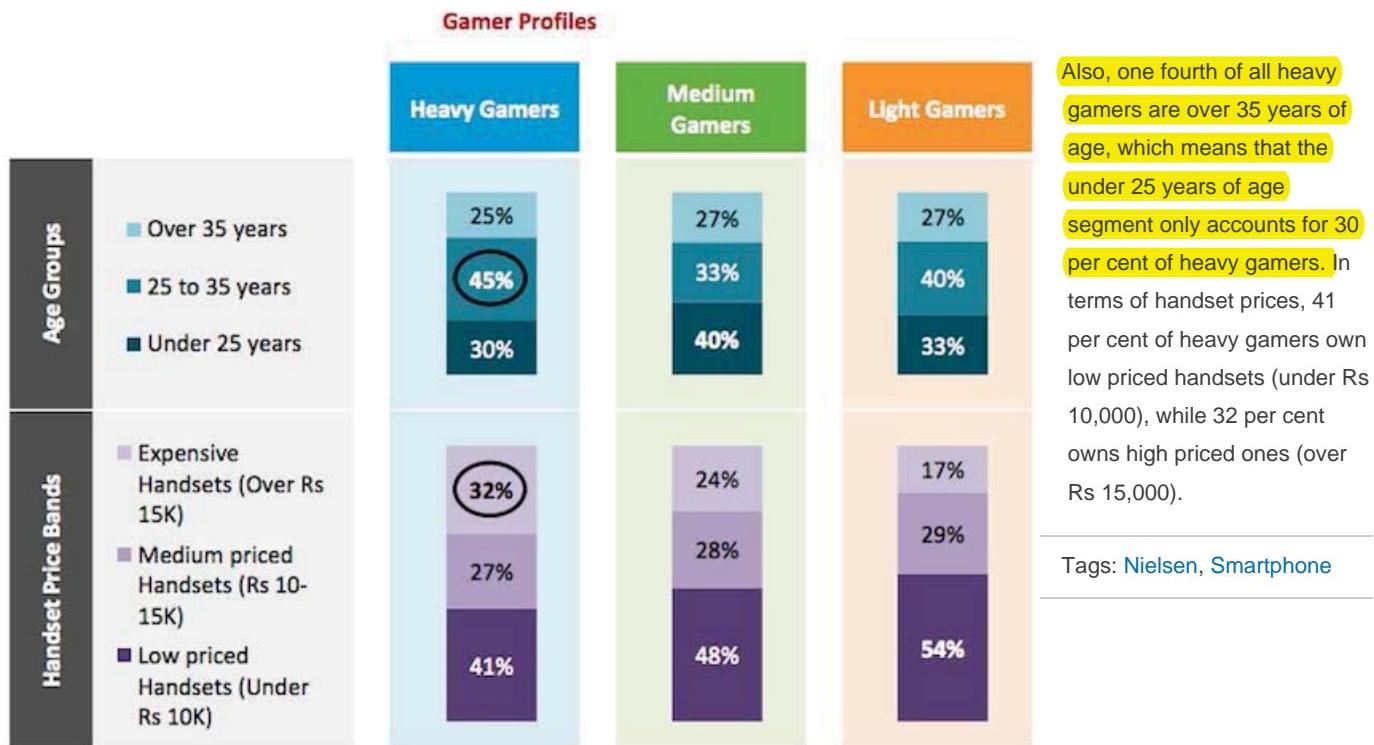
The top five games across gamer segments were Subway Surfers, Temple Run 2, Hill Climb Racing, Angry Birds and Dr Driving, in that order. Although in terms of engagement for each game, Hill Climb Racing took number one position with gamers spending 16 (heavy), 6 (medium) and 2 (light) minutes on the game on a daily basis. Subway Surfers came second in terms of engagement, followed closely by Angry Birds.

Gaming not child's play

Interestingly, the top games played by users remained the same across the different gamer segments, while the key differentiator was the engagement. On an average, heavy gamers spent over an hour each day on games, while medium gamers spend around 18 minutes and light gamers spend just two minutes on gaming each day.

hide

Unlike popular belief that the heaviest gamers will consist of a majority of younger smartphone users, nearly half (45 per cent) of all heavy gamers are aged between 25 and 35 years of age. This age group is young enough to be smartphone savvy and old enough to be able to afford more capable smartphones- making them the largest proportion in the heavy gamer segment.



Source: Nielsen Informate Mobile Insights July '13

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Exhibit D

Exhibit D



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Nothing Casual About This Game Obsession

Marketers Take Note: Time Spent on Casual Games Has Gone Up and the Average Age of Players Has Gone Down

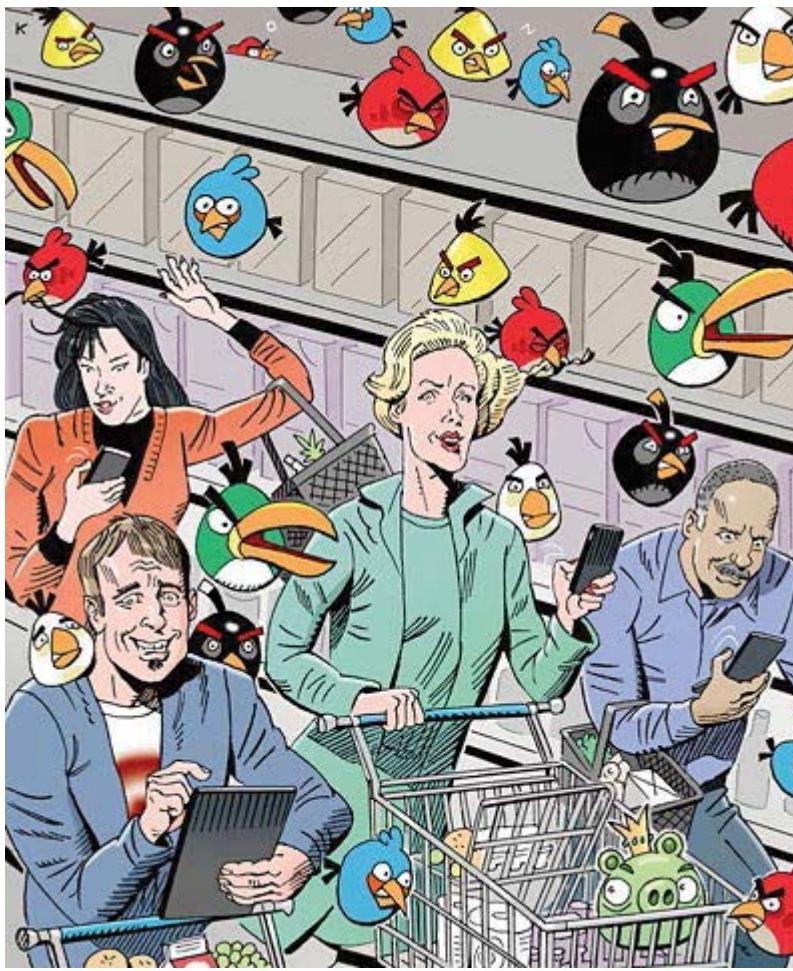
By [Irina Slutsky](#). Published on January 10, 2011.



SAN FRANCISCO

(AdAge.com) -- They do it at the bus stop, at the doctor's office, in line at the grocery store. They do it everywhere they can.

The number of people playing casual games and the amount of time they spend playing is unprecedented. "Angry



Credit: Illustration: Martin Kozlowski

"Birds" alone sucks in users for 200 million minutes a day and Zynga's CityVille entices close to 100 million people a month. This no longer sounds casual.

The reason people have become so committed is

easy to identify: the proliferation of the mobile device that's always in their pockets. The Casual Games Association reports the industry earned \$3 billion in mobile revenue in 2009. Mobile devices and social networks have resulted in more people playing more games, giving advertisers an opportunity for innovation and huge new audiences.

"Casual games have been growing thanks to the explosion of mobile -- largely the iPhone -- and social networks, primarily Facebook," said Mari Baker, CEO of PlayFirst, creator of the Diner Dash games. Ms. Baker said casual doesn't refer to the relationship of the player to the game, but means that the game is easy to learn, can be played in short bursts and is relatively inexpensive and fast to develop. "Angry Birds" cost Rovio \$100,000 to make and is bringing in more than \$2 million a month.

Mobile devices have also had an impact on who plays the game. "Demographically the other thing that's happened with Facebook and iPhone is the average age of the

casual game player has gone down from 35-to-55 to 25-to-45," Ms. Baker said.

The reason these games are so attractive to today's consumers is the fact that they can get in and out in five minutes or less, making it appealing to busy people who are running around but have their mobile devices with them. Unlike games such as "World of Warcraft" or "Grand Theft Auto," which can consume hours a day or more to complete just one stage of the game, casual games give gamers the satisfaction of completing a level without a huge time commitment.

So what can advertisers do with this incredibly huge audience and its love for quick and easy games? Peter Vesterbacka, creator of the "Angry Birds" game, said brands first have to let go of the idea that they need their own game. "We get a lot of requests like 'You made 'Angry Birds,' can you make a game for us?' Sure we can. But the smart brands are the ones who will work with the apps that have the audiences already and create experiences that will be integrated into the app."

Mr. Vesterbacka added, "We have the audience, and we get contacted by some of the biggest brands who get it, who want to see how they can integrate their brand into the experience." He said it was too early for him to discuss any plans "Angry Birds" has with brands for integration, but that 2011 will be a big year for the "Angry Birds" franchise.

Mr. Vesterbacka also noted he is looking to TV as an advertising model for casual games. "In TV, there's free-to-air, there's cable, there's ad supported, there's pay-per," Mr. Vesterbacka said. "This is still early days, but we will be much bigger than TV."

A good way for advertisers to integrate with casual-game content is to sponsor items inside the game. Unlike several years ago, when casual games were mostly for sale, gamers have more choices for free games than ever before.

"That's a huge shift in gaming," said David Madden, CEO of game marketer Wild Tangent. "It used to be a software business, but now it's a content-access business, and users are paying for items inside the free content."

Mr. Madden said his company creates campaigns for Clorox, Axe Body Spray and Dove. For interacting with a brand inside the game, players get virtual goods that would normally cost money. "In the social-game space, less than 3% of users are spending real money, so there's a 97% opportunity here for advertisers to sponsor

social-game access," Mr. Madden said.

Another opportunity to innovate with casual games is merging online and offline experiences. PlayFirst's Chocolatier game created a campaign for Charles Chocolates during which users could opt to purchase real-life versions of the chocolates they made in-game. Players have since created 135 million pieces of Charles Chocolates for their virtual shops -- that's not bad name recognition for a small San Francisco brand.

Ms. Baker, who worked on the Charles Chocolates campaign, said the most important thing for short bursts of game play is that the ad doesn't get in the way. "You can't be in the middle of breaking down the wall in 'Angry Birds' and have something pop up as an ad," Ms. Baker said. "The principle of advertising has to be not to interrupt the game play."

What's next for the birds?



When "Angry Birds" released its version for the PC at the Intel app store last week, it slowed the site down to a crawl. Without the holiday numbers factored in, "Angry Birds" has been downloaded more than 50 million times on Apple and Android devices.

"We don't have the numbers yet, but we saw a four-fold increase in downloads on Apple since Christmas," said game creator Peter Vesterbacka while on vacation in Finland, where game developer Rovio is based. He said the game easily makes \$1 million a month on the Android ad-supported version with an equal amount in iPhone and iPad downloads—that's \$2 million per month on a game that cost \$100,000 to make.

So what's next? Can Rovio repeat such success? "We don't want to replicate 'Angry Birds' but to expand the franchise," Mr. Vesterbacka said. "We have some big announcements planned for this year that will keep the franchise fresh."

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Myth busting: Mobile Gaming demographics

1 June 2015

The gaming market, especially mobile gaming, has been growing fast over recent years. Games are the most popular mobile app category in [iTunes App Stores](#) and gaming experts predict the [mobile gaming market](#) will double by 2016.

It's likely that part of the growth of mobile gaming comes from increased accessibility, as [smartphones and tablets](#) become more common. These devices, which aren't necessarily purchased to play games, have helped attract people who wouldn't traditionally consider themselves to be gamers.

With a mobile device always on hand, our research shows that average game session time has increased significantly. In 2014 an average game session was 4 minutes and in May 2015 it stands at 4.7 minutes.

While the industry rides a growing wave, it's also rapidly changing – and so are mobile gaming demographics. People are spending more time and money on gaming, and new consumers are being attracted by games which appeal to broader audiences.

Misconceptions about gamers are still common – even within the gaming industry. If you imagine the stereotypical gamer as an adolescent boy, you're not alone! But our data tells a different story about the demographics of your average gamer.

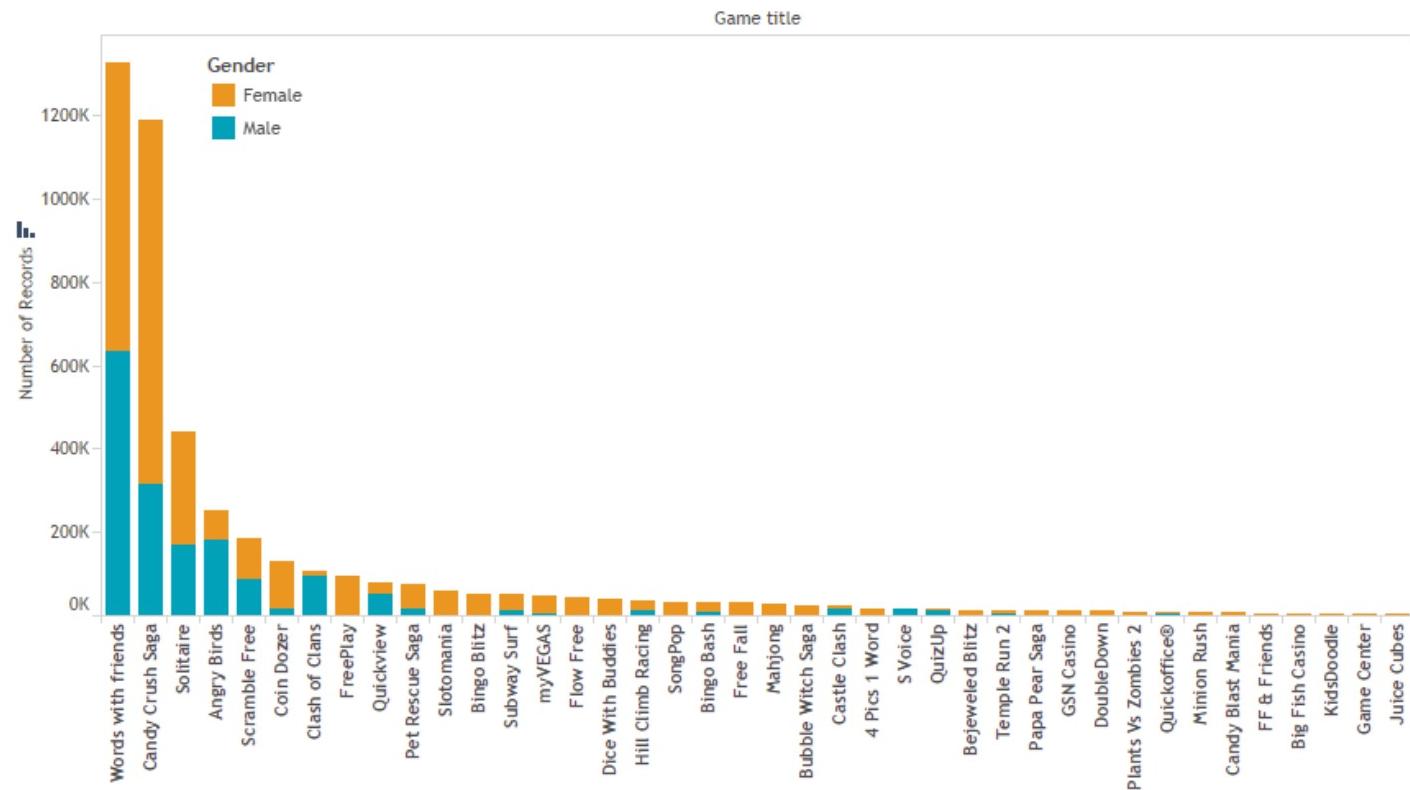
Using our Passive Mobile Behaviour tool, which captures application consumption on a highly granular level among American panelists, RealityMine has conducted a study to find out the real face of mobile gamers and how gaming fits into their daily lives.

Men Vs Women

Our data revealed that more women play mobile games than men – 66% of men play, while the same figure among women is 70%. In terms of the time spent gaming, females beat males at all times of the day – an average gaming session for women lasts 25% longer than for men.

As the mobile gaming industry grows and the variety of games increases, there are dozens of games that appeal to female audiences, such as Candy Crush Saga and Words with Friends – which are the most popular games for both our female and male panelists. The data further reveals that women use a greater variety of games, while men choose to stick with just one or two games.

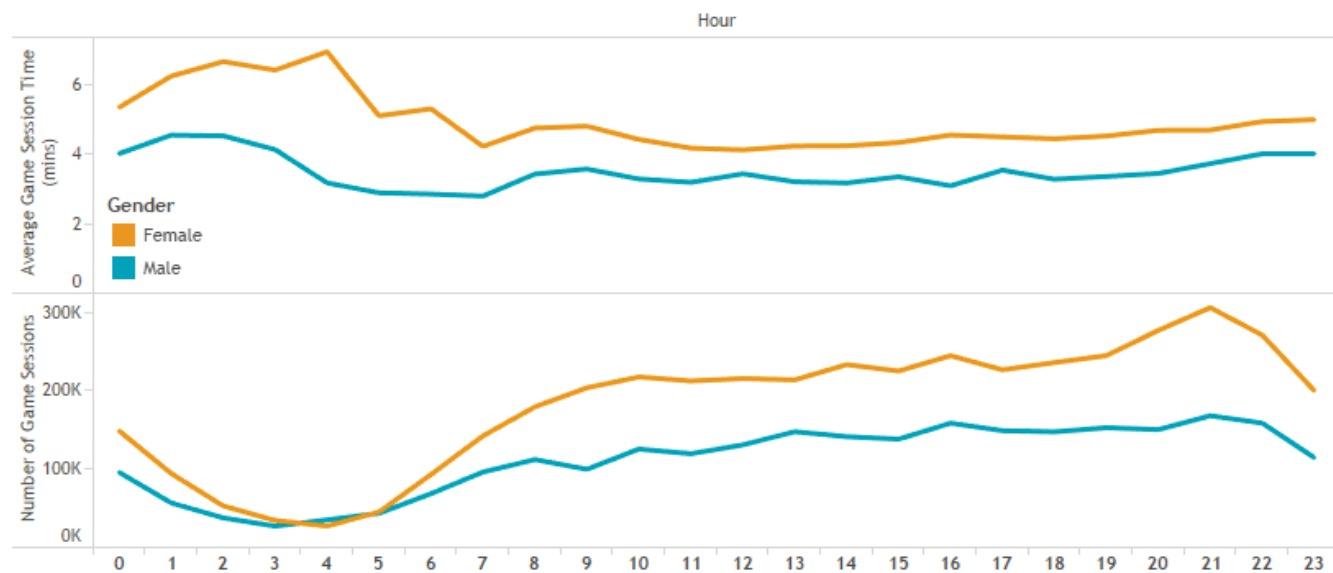
Most Popular Games



Against the clock

Our data shows that gaming sessions of male gamers, slightly and continuously increase from 8am until 9pm, with peaks at lunch time and during commuting times. The trend among female gamers is very similar, but the 9pm peak is a lot more significant and engagement starts much earlier in the day, with gaming sessions gradually increasing from 5am.

Daily Playing Pattern

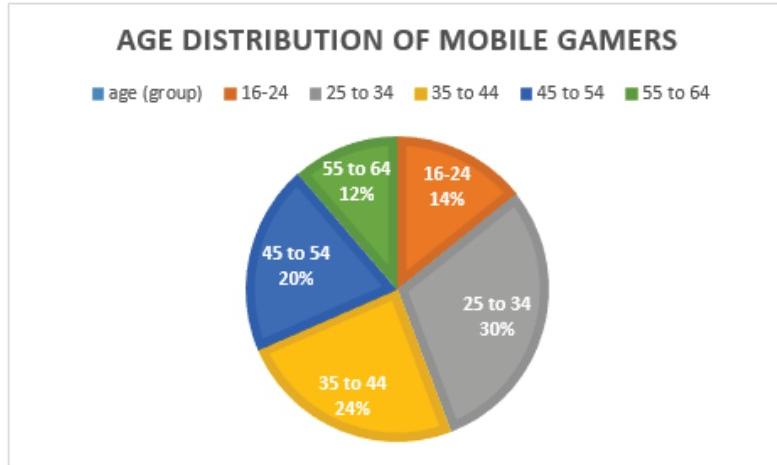


Generation Game

Youngsters are not the biggest consumers of mobile games. In fact, parents are more likely to be gamers than their

children. 61% of gamers in our survey were parents with children living in the same household. The 16-24 age group represents a mere 14.2% of mobile gamers, while people older than 45 years make up nearly a third. So mobile gamers are more likely to be middle aged moms than their teenage sons.

The significance of the older gaming consumer is further reinforced by research from the mobile gaming community, [MocoSpace](#). The findings of this study reveal a direct correlation between the amounts of money spent on virtual goods within social games and gamer age – the older the gamer, the more they spend. Based on the study, 70% of all the gamers over 45 years bought virtual goods.



Data wins the mobile game

In a fast changing, and sometimes misunderstood marketplace, research data plays a crucial role in understanding how people actually behave.

The flexibility of multiple devices makes games more accessible to consumers that don't fit the traditional stereotype, and have quickly developed new and fast changing behaviors.

In order to create and market a successful mobile game, it is not necessarily to advertise in the Super Bowl – like [Game of War](#), [Clash of Clans](#) and [Heroes Charge](#) did this year – but what is necessary is to understand the '*why*' behind key market trends.

Understanding the change in gaming demographics helps game developers and marketers to know their target audience. When the wants of users are known, it's easier to classify, prioritize and improve adverts by addressing user preferences at micro-level. This user specific approach to advertisement also helps to enhance user engagement.

◀ How Americans consume media on the daily commute

Are tablets mobiles... or computers? ▶

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Exhibit F

Exhibit F

2015

SALES, DEMOGRAPHIC AND USAGE DATA

ESSENTIAL FACTS

ABOUT THE COMPUTER
AND VIDEO GAME
INDUSTRY



entertainment®
software
association

“Video games are ingrained in our culture. Driven by some of the most innovative minds in the tech sector, our industry’s unprecedented leaps in software and hardware engages and inspires our diverse global audience. Our artists and creators continue to push the entertainment envelope, ensuring that our industry will maintain its upward trajectory for years to come.”

—Michael D. Gallagher, president and CEO,
Entertainment Software Association



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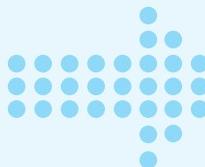
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- 16 ESA Partners

The 2015 Essential Facts About the Computer and Video Game Industry was released by the Entertainment Software Association (ESA) in April 2015. The annual research was conducted by Ipsos MediaCT for ESA. The study is the most in-depth and targeted survey of its kind, gathering data from more than 4,000 American households. Heads of households and the most frequent gamers within each household were surveyed about their game play habits and attitudes.

WHO IS PLAYING

OVERVIEW



155 million

Americans play video games

There are an average of

TWO GAMERS

in each game-playing U.S. household



FOUR OUT OF FIVE

U.S. households own a device used to play video games

“The [video game] industry is producing a steady stream of games that continue to expand their nature and impact – they can be artistic, social, and collaborative, with many allowing massive numbers of people from all over the world to participate simultaneously.”

—*The New Media Consortium’s 2014 K-12 Horizon Report*

51%

of U.S. households own a dedicated game console

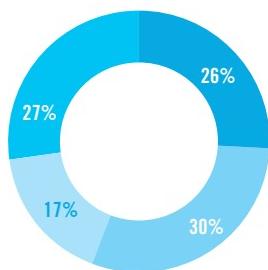
42%

of Americans play video games regularly (3 hours or more per week)

WHO IS PLAYING

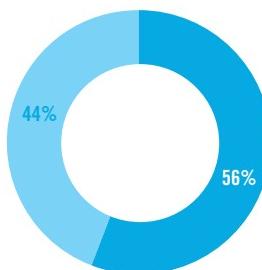
GAMER DEMOGRAPHICS

The average game player is **35** years old



AGE of Game Players

26% under 18 years
30% 18-35 years
17% 36-49 years
27% 50+ years



GENDER of Game Players

56% male
44% female

Women age 18 or older represent a significantly greater portion of the game-playing population (33%) than boys age 18 or younger (15%)

The most frequent FEMALE GAME PLAYER is on average **43 years old** and the average MALE GAME PLAYER is **35 years old**

The average number of years gamers have been playing video games: **13**

WHO IS BUYING

GAMER PURCHASING

WHO BUYS COMPUTER AND VIDEO GAMES?

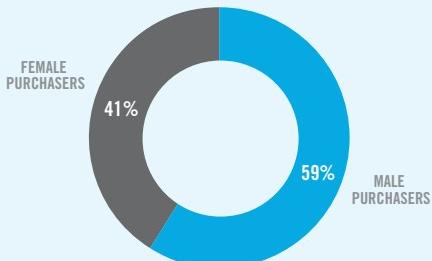
37

is the average age of the most frequent game purchaser

29%

of the most frequent game players currently pay to play video games online

Of the most frequent game purchasers:



THE MOST FREQUENT GAMER FEELS THAT COMPUTER AND VIDEO GAMES PROVIDE MORE VALUE FOR THEIR MONEY (47%) COMPARED TO DVDS (28%), GOING TO MOVIES (14%), AND MUSIC (12%)

“Games offer immediate feedback, you can see your progress, you can try something and be frustrated but later learn more... that's why game play is so engaging to us.”

—Barbara Chamberlin, project director at
the New Mexico State University Learning Games Lab



39%

of the most frequent gamers play social games

Top three types of video games that the most frequent gamers play most often:

31%

Social Games

30%

Action

30%

Puzzle/Board Game/Card Game/Game Shows

TOP DEVICES MOST FREQUENT GAMERS USE TO PLAY GAMES:

PC (62%), DEDICATED GAME CONSOLE (56%),
SMARTPHONE (35%), WIRELESS DEVICE (31%),
DEDICATED HANDHELD SYSTEM (21%)

Top three types of video games that the most frequent gamers play most often on their wireless or mobile devices:

31%

Social Games

14%

Puzzle/Board Game/
Card Game/Game Shows

5%

Action

AT PLAY

HOW WE PLAY

**Gamers who are playing more video games than they did three years ago
are spending less time:**

39%

watching
TV

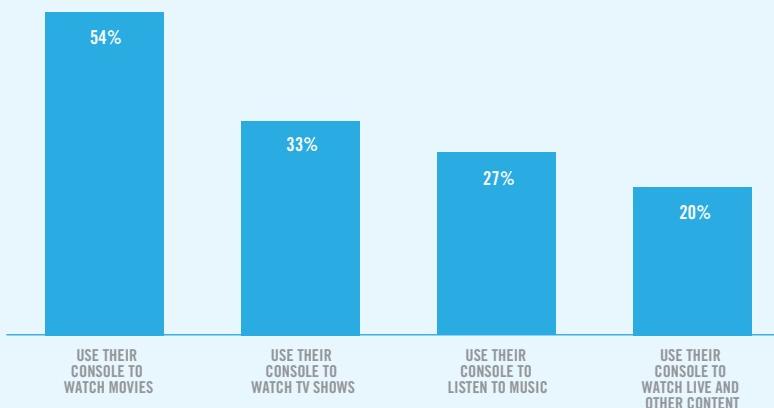
40%

going to
the movies

47%

watching movies at home

Gamers who own dedicated game consoles use them for other entertainment media, in addition to playing games:



The most frequent gamers who play with others spend an average of

6.5 Hours

per week playing with
others online

5 Hours

per week playing with
others in-person



56%

of the most frequent gamers play with others, including:

42%

friends

21%

family members

16%

parents

15%

spouse/partner

“Millennials are putting [video games] at the center of their entertainment preferences, but it is a new kind of gaming that is more social, interactive and engaging.”

— Neil Howe, president of LifeCourse Associates
and leading researcher on millennials

54%

of the most frequent gamers play a multiplayer mode at least weekly

54%

of the most frequent game players feel video games help them connect with friends

45%

feel video games help them spend time with family



69%

of parents regularly check a game's rating before making a purchase

84%

of parents are aware of the ESRB rating system

PARENTS CONTROL WHAT THEIR KIDS PLAY

91%

of parents believe that the parental controls available in all new video game consoles are useful. Further, parents impose time usage limits on video games more than any other form of entertainment:

79%

of parents place time limits on video game playing

72%

of parents place time limits on Internet usage

70%

of parents place time limits on TV viewing

66%

of parents place time limits on movie viewing

Of the games rated by ESRB in 2014:



41%

received an E (Everyone) rating

21%

received an E10+ (Everyone 10+) rating

23%

received a T (Teen) rating

14%

received an M (Mature) rating



91%

of parents whose children play games are present when games are purchased or rented

90%

require their children to get permission before buying or renting a video game

94%

of parents always or sometimes pay attention to the video games their child plays

63%

of parents say video games are a positive part of their child's life

59%

of parents whose children are gamers play computer and video games with their children at least weekly

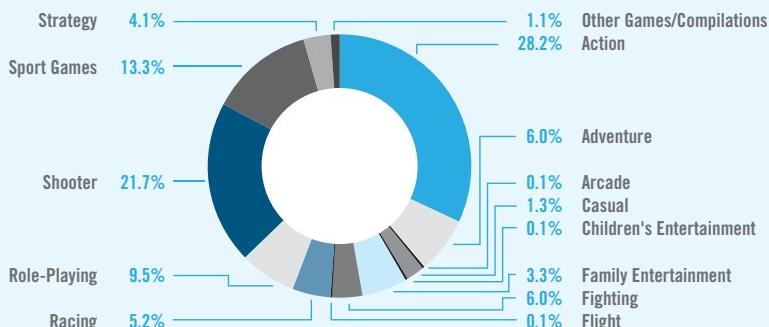
TOP 5 REASONS PARENTS PLAY GAMES WITH THEIR KIDS:

- ① It's fun for the entire family: 85%
- ② Because they're asked to: 75%
- ③ It's a good opportunity to socialize with their child: 75%
- ④ It's a good opportunity to monitor game content: 58%
- ⑤ They enjoy playing video games as much as their child does: 54%

THE BOTTOM LINE

TOP SELLERS

Best-Selling VIDEO GAME Super Genres by Units Sold, 2014

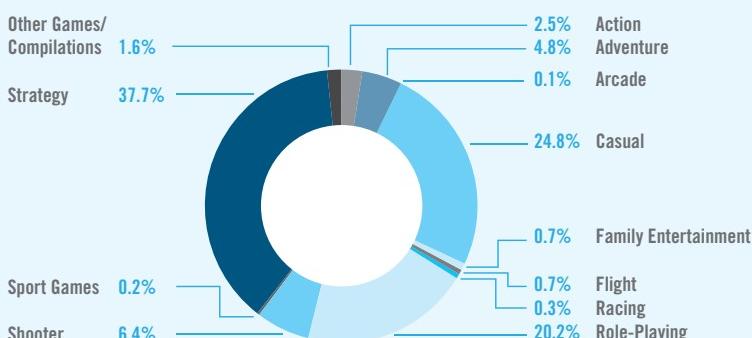


Source: The NPD Group/Retail Tracking Service

“Video games are complex systems composed of rules that interact. Gamers must think like a designer and form hypotheses about how the rules interact so they can accomplish goals and even bring about emergent results. Thinking like a designer in order to understand systems is a core 21st-century skill.”

— Dr. James Paul Gee, Mary Lou Fulton Presidential Professor of Literacy Studies at Arizona State University

Best-Selling COMPUTER GAME Super Genres by Units Sold, 2014



Source: The NPD Group/Retail Tracking Service

THE BOTTOM LINE

TOP SELLERS

TOP 20 SELLING VIDEO GAMES OF 2014 BY UNITS SOLD

RANK	TITLE	ESRB RATING
1	CALL OF DUTY: ADVANCED WARFARE	MATURE
2	MADDEN NFL 15	EVERYONE
3	DESTINY	TEEN
4	GRAND THEFT AUTO V	MATURE
5	MCRAFT	EVERYONE 10+
6	SUPER SMASH BROS.	EVERYONE 10+
7	NBA 2K15	EVERYONE
8	WATCH DOGS	MATURE
9	FIFA 15	EVERYONE
10	CALL OF DUTY: GHOSTS	MATURE
11	TITANFALL	MATURE
12	LEGO MARVEL SUPER HEROES	EVERYONE 10+
13	THE LEGO MOVIE VIDEOGAME	EVERYONE 10+
14	Far Cry 4	MATURE
15	DISNEY INFINITY 2.0	EVERYONE 10+
16	NBA 2K14	EVERYONE
17	MARIO KART 8	EVERYONE
18	JUST DANCE 2015	EVERYONE 10+
19	MIDDLE EARTH: SHADOW OF MORDOR	MATURE
20	BATTLEFIELD 4	MATURE

Source: The NPD Group/Retail Tracking Service

TOP 20 SELLING COMPUTER GAMES OF 2014 BY UNITS SOLD

RANK	TITLE	ESRB RATING
1	THE SIMS 4	TEEN
2	THE SIMS 3: STARTER PACK	TEEN
3	DIABLO III: REAPER OF SOULS	MATURE
4	THE ELDER SCROLLS ONLINE	MATURE
5	WORLD OF WARCRAFT: WARLORDS OF DRAENOR EXPANSION PACK	TEEN
6	DIABLO III	MATURE
7	TITANFALL	MATURE
8	THE SIMS 3: ISLAND PARADISE EXPANSION PACK	TEEN
9	THE SIMS 3 SEASONS EXPANSION PACK	TEEN
10	ELDER SCROLLS V: SKYRIM	MATURE
11	THE SIMS 3: UNIVERSITY LIFE EXPANSION PACK	TEEN
12	THE SIMS 3: PETS	TEEN
13	THE SIMS 3: INTO THE FUTURE EXPANSION PACK	TEEN
14	ELDER SCROLLS ANTHOLOGY	TEEN-MATURE
15	DRAGON AGE: INQUISITION	MATURE
16	STARCRAFT II: WINGS OF LIBERTY	TEEN
17	THE SIMS 3: SUPERNATURAL EXPANSION PACK	TEEN
18	WORLD OF WARCRAFT: BATTLE CHEST 2013	TEEN
19	CIVILIZATION V	EVERYONE 10+
20	STARCRAFT II: HEART OF THE SWARM EXPANSION PACK	TEEN

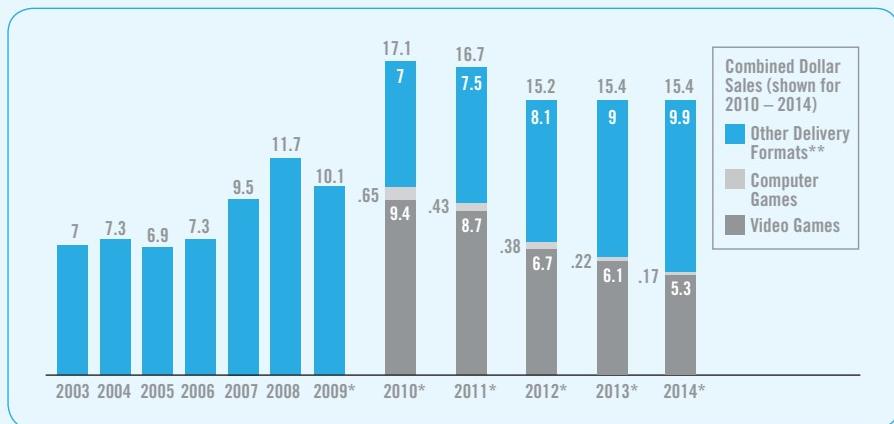
Source: The NPD Group/Retail Tracking Service

THE BOTTOM LINE

SALES INFORMATION

U.S. Computer and Video Game DOLLAR Sales

DOLLARS IN BILLIONS

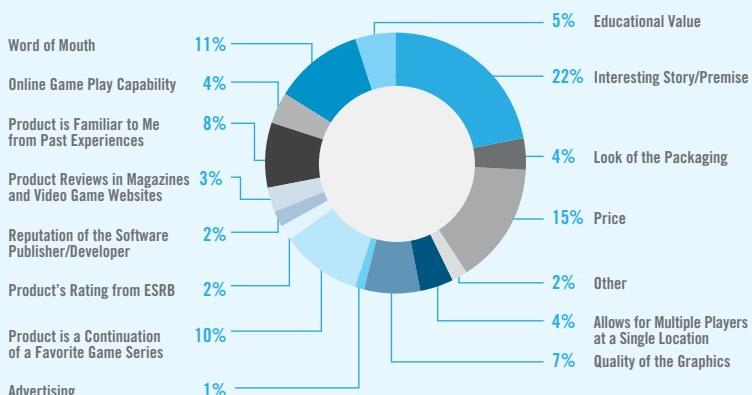


Source: The NPD Group/Retail Tracking Service; Games Market Dynamics: U.S.

* Figures include total consumer spend.

** Other delivery formats include subscriptions, digital full games, digital add-on content, mobile apps, social network gaming and other physical delivery. 2003-2009 figures are sales of new physical content at retail exclusively.

Factors influencing decisions to purchase video games:



THE BOTTOM LINE

TOTAL CONSUMER SPEND ON GAMES INDUSTRY

Total Consumer Spend on Games Industry 2014

DOLLARS IN BILLIONS

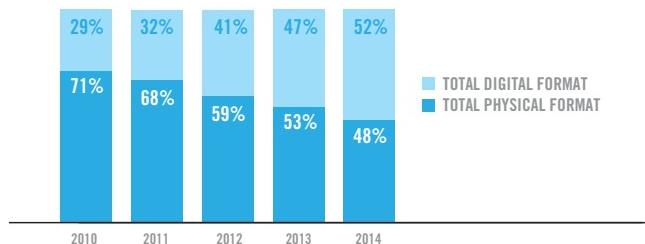


Source: The NPD Group/Games Market Dynamics: U.S.

"If it weren't for video game enthusiasts and the absolute commercial need to keep them happy with ever-better graphics requiring ever-higher processor speeds, complex computer graphics would still be found only in the high-priced domains of the business and science world."

— Ralph Baer, inventor of the Brown Box and pioneer of the home video game console

Recent Digital* and Physical Sales Information



Source: The NPD Group/Games Market Dynamics: U.S.

*Digital format sales include subscriptions, digital full games, digital add-on content, mobile apps and social network gaming.

WHO WE ARE



entertainment®
software
association

ABOUT THE ENTERTAINMENT SOFTWARE ASSOCIATION

The Entertainment Software Association (ESA) conducts business and consumer research, and provides analysis and advocacy on issues like global content protection, intellectual property, technology, e-commerce and the First Amendment in support of interactive software publishers. ESA owns and operates E3 and represents video game industry interests on federal and state levels.

To learn more, visit TheESA.com and follow us on Twitter:
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ESA MEMBERS AS OF MARCH 2015

345 GAMES	www.spike.com/press/shows/345-games
505 GAMES	www.505games.com
ACTIVISION BLIZZARD, INC.	www.activisionblizzard.com
BANDAI NAMCO GAMES AMERICA INC.	www.namcobandaigames.com/home.html
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DISNEY INTERACTIVE STUDIOS, INC.	www.games.disney.com/video-games

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KONAMI DIGITAL ENTERTAINMENT AMERICA	www.konami.com
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NATSUME INC.	www.natsume.com
NEXON AMERICA, INC.	www.nexon.net
NINTENDO OF AMERICA INC.	www.nintendo.com
NVIDIA	www.nvidia.com
SLANG	www.slang.vg
SONY COMPUTER ENTERTAINMENT AMERICA LLC	www.us.playstation.com
SQUARE ENIX LTD.	www.na.square-enix.com/us/home
TAKE-TWO INTERACTIVE SOFTWARE, INC.	www.take2games.com
TECMO KOEI AMERICA CORPORATION	www.tecmokoeiamerica.com
TENCENT	www.tencent.com/en-us/
UBISOFT, INC.	www.ubisoftgroup.com
WARGAMING PUBLIC COMPANY, LTD.	www.wargaming.com
WARNER BROS. INTERACTIVE ENTERTAINMENT INC.	www.warnerbros.com/videogames
XSEED GAMES	www.xseedgames.com

OTHER RESOURCES

ESA PARTNERS

Learn more about the ESA and its programs at www.theESA.com.

ENTERTAINMENT SOFTWARE RATING BOARD | WWW.ESRB.ORG

The Entertainment Software Rating Board (ESRB) is a non-profit, self-regulatory body established in 1994 by ESA. ESRB independently assigns computer and video game content ratings, enforces advertising guidelines and helps ensure responsible online privacy practices for the interactive entertainment software industry.

ACADEMY OF INTERACTIVE ARTS & SCIENCES | WWW.INTERACTIVE.ORG

The Academy of Interactive Arts & Sciences (AIAS) was founded in 1996 as a not-for-profit organization to recognize outstanding achievements in interactive entertainment. The AIAS conducts the annual D.I.C.E. Awards to promote and acknowledge exceptional accomplishments in the field. In 2002 the Academy created the D.I.C.E. Summit dedicated to exploring approaches to the creative process and artistic expression as they uniquely apply to the development of interactive entertainment.

INTERNATIONAL GAME DEVELOPERS ASSOCIATION | WWW.IGDA.ORG

The International Game Developers Association (IGDA) is the largest non-profit membership organization serving individuals who create video games. The IGDA advances the careers and enhances the lives of game developers by connecting members with their peers, promoting professional development and advocating on issues that affect the developer community. These core activities advance games as a medium and game development as a profession.

THE NPD GROUP, INC. | WWW.NPD.COM

The NPD Group provides market information and business solutions that drive better decision-making and better results. The world's leading brands rely on us to help them get the right products in the right places for the right people. Practice areas include automotive, beauty, consumer electronics, entertainment, fashion, food / foodservice, home, luxury, mobile, office supplies, sports, technology, toys and video games.

VIDEO GAME VOTERS NETWORK | WWW.VIDEOGAMEVOTERS.ORG

The Video Game Voters Network (VGVN) is a grassroots organization of voting-age gamers who organize and take action in support of computer and video games. Since its creation in 2006, more than 500,000 grassroots activists have joined the VGVN.

ESA FOUNDATION | WWW.ESAFOUNDATION.ORG

Created by the American entertainment software industry, the ESA Foundation works to make a positive difference in the lives of America's youth by providing scholarships to the next generation of industry innovators and supporting charitable organizations and schools that leverage entertainment software and technology to create educational opportunities. ESA Foundation is primarily supported by proceeds from its signature annual fundraiser, "Nite to Unite – for Kids" and other charitable initiatives.



www.theESA.com

ESA FACEBOOK: facebook.com/The.EntertainmentSoftwareAssociation

ESA TWITTER: twitter.com/RichatESA

Exhibit G

Exhibit G

Apps

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Temple Run

Imangi Studios, LLC

★★★★★ (15866)

FREE

Save

[Product Info](#) [Photos](#) [Reviews](#) [Recommendations](#)

Description

The addictive mega-hit Temple Run took the world by storm and is now out on the Amazon App Store! All your friends are playing it - can you beat their high scores?! You've stolen the cursed idol from the temple, and now you have to run for your life to escape the Evil Demon Monkeys nipping at your heels. Test your reflexes as you race down ancient temple walls and along sheer cliffs. Swipe to turn, jump and slide to avoid obstacles, collect coins and buy power ups, unlock new characters, and see how far you can run! "In every treasure hunting adventure movie there's one scene in which the plucky hero finally gets his hands on the treasure but then has to navigate a maze of booby traps in order to get out alive. Temple Run is this scene and nothing else. And it's amazing." - SlideToPlay.com REVIEWS - "Most thrilling and fun running game in a while, possibly ever." - TheAppera.com - "A fast and frenzied experience." - IGN.com - "Very addicting... definitely a very different running game." - Appolicious.com - Voted by TouchArcade Forums as Game of the Week - One of TouchArcade's Best Games of the Month - Over 80 MILLION players worldwide! Developer's privacy policy: <http://www.imangistudios.com/privacy.html> PLEASE NOTE: This app contains in-app purchasing, which allows you to buy items within the app using actual money. On Amazon devices, you can configure parental controls from the device Settings menu by selecting Parental Controls. Sold by: Amazon Digital Services, Inc.

Application Permissions

- Allows sending in-app billing requests and managing in-app billing transactions
- Open network sockets
- Write to external storage
- Access information about Wi-Fi networks



Exhibit H

Exhibit H

< Apps

temple run



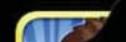
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**Temple Run**Imangi Studios, LLC
★★★★★ (15780)[Download](#)**Screenshots****Product Description**

The addictive mega-hit Temple Run took the world by storm and is now out on the Amazon App Store! All your friends are playing it - can you beat their high scores?! You've stolen the cursed idol from the temple, and now you have to run for your life to escape the Evil Demon...

[See All](#)**Key Details**

- Guidance Suggested
- In-App Purchasing
- GameCircle

Customers Who Bought This Item Also Bought[See All](#)

13,255 coins



< Apps

temple run



Library >

Product Description

The addictive mega-hit Temple Run took the world by storm and is now out on the Amazon App Store! All your friends are playing it - can you beat their high scores?! You've stolen the cursed idol from the temple, and now you have to run for your life to escape the Evil Demon Monkeys nipping at your heels. Test your reflexes as you race down ancient temple walls and along sheer cliffs. Swipe to turn, jump and slide to avoid obstacles, collect coins and buy power ups, unlock new characters, and see how far you can run! "In every treasure hunting adventure movie there's one scene in which the plucky hero finally gets his hands on the treasure but then has to navigate a maze of booby traps in order to get out alive. Temple Run is this scene and nothing else. And it's amazing." -

SlideToPlay.com REVIEWS - "Most thrilling and fun running game in a while, possibly ever." - TheAppera.com - "A fast and frenzied experience." - IGN.com - "Very addicting... definitely a very different running game." -

Appolicious.com - Voted by TouchArcade Forums as Game of the Week - One of TouchArcade's Best Games of the Month - Over 80 MILLION players worldwide! PLEASE NOTE: This app contains in-app purchasing, which allows you to buy items within the app using actual money. On Amazon devices, you can configure parental controls from the device Settings menu by selecting Parental Controls.

[See Less](#)**Key Details**

- Guidance Suggested
- In-App Purchasing
- GameCircle

13,255 coins



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Cheers!

May 27, 2012 by rbhatta "A Dinosaur you can trust!"

★★★★★ awesome game

great game. my 3 yr old son and I both play. we are addicted to it. we both wait for the other one to finish so we can play. its very good for when you are waiting and you have nothing to do. it keeps my son occupied too.

December 22, 2012 by KMac

★★★★★ fun and addictive

This game is very fun and addictive. It teaches you how to play the game before you actually start playing it. And you never win! Otto mist keeps going until you make a mistake and die. I recommend this game to all ages because its easy, fun, and best of all, FREE!

June 11, 2012 by S. Coughlin "book geek"

Permissions

- Allows sending in-app billing requests and managing in-app billing transactions
- Open network sockets
- Write to external storage
- Access information about Wi-Fi networks
- Access information about networks

Product Details

Rated: Guidance Suggested

File Size: 23.1MB

ASIN: B0086700CM

Original Release Date: May 25, 2012

Version: 1.0.8



< Apps

temple run



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Screenshots

Title
Image

Key Details

All Ages

Based on information provided by the developer, the content of this application has material that is appropriate for all users and contains no objectionable content or advertisements.

Guidance Suggested

Based on information provided by the developer, the content of this application has material that is appropriate for most users. The app may include account creation, location detection, user-generated content, advertisements, infrequent or mild references to violence, profanity or crude themes, or other content not

the wor
» Store!
high sc
mple, an
e Evil De
reflexes

OK

Customers who Bought This Item Also Bought



Subway Surfers

★★★★★ (1044)

FREE

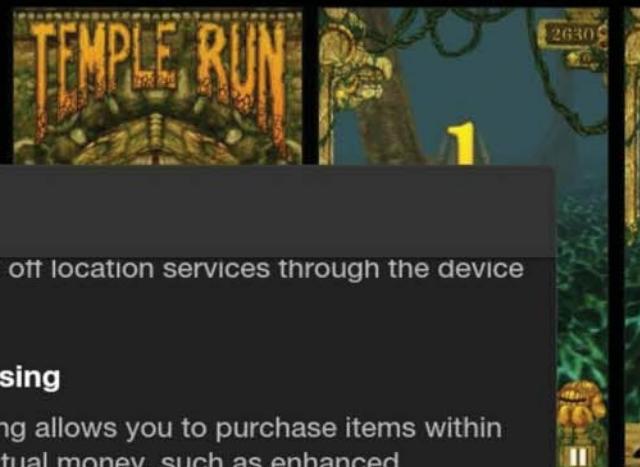
Despicable Me:
Minion Rush★★★★★ (4805)
FREEAngry Birds
Friends★★★★★ (240)
4,524 coins

< Apps

temple run



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**Screenshots**

Title

Image

Rating

Key Details

allow you to turn off location services through the device settings menu.

In-App Purchasing

In-App Purchasing allows you to purchase items within the app using actual money, such as enhanced functionality, media content, or subscription access to content or services. On Android devices, you can configure in-app purchasing parental controls from the settings menu within the Amazon Appstore.

High Bandwidth Required

This game uses streaming technology and requires a stable, high bandwidth connection. Playing this game on

OK

Customers who Bought This Item Also Bought

Subway Surfers

★★★★★ (1044)

FREE

Despicable Me:
Minion Rush

★★★★★ (4805)

FREE

Angry Birds
Friends

★★★★★ (240)

4,524 coins



Exhibit I

Exhibit I

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In-App Purchasing 101

In-app purchasing allows you to purchase items within a free or paid app. These items can be used to unlock additional functionality, such as new levels in a game or issues of your favorite magazine, or allow you to purchase subscriptions and more. In-app purchasing uses the same 1-Click settings used to purchase apps in the Amazon Appstore for Android.

The Three Types of In-App Items

1. Single-Device Items (in-game currency):

Single-Device items (in-game currency such as coins, stars, or bucks) can only be accessed on the device from which they were purchased. Single-device items are indicated by a "Single-Device" message at the bottom of the In-app detail page.

Single Device - If purchased, this item will be available only on this device.

2. Multi-Device Items (premium game "unlocks"):

Multi-Device items (premium game "unlocks" or magazine issues) can be accessed on all compatible devices registered to your account; you will not need to buy them again. Multi-Device items are indicated by a "Multi-Device" message at the bottom of the In-app detail page.

Multi-Device - If purchased, this item will be available on all compatible devices registered to your account.

3. Subscription Items

Subscriptions can be accessed on all compatible devices registered to your account and will be automatically renewed until auto-renewal is turned off. If you wish to update your subscription or turn off auto-renewal, go to [Your Subscriptions](#) on Amazon.com.

Developers and publishers may also choose to include a free trial with your subscription. You will not be charged if you turn off auto-renewal at any time during the free trial period. If you do not turn off auto-renewal during the free trial period, your subscription will continue at the regular price using your default 1-Click payment method. You are eligible for one free trial per subscription.

Parental Controls for In-App Purchases

Kindle Fire users can set Parental Controls to restrict In-app purchases. To enable Parental Controls, visit Settings (first tap "More" in the menu) on your device and select the "Parental Controls" option. On the next screen, select "On" located on the right side. The feature will then ask you to create a Parental Controls password that will be required to purchase any content on your Kindle Fire. Please note that once you select this setting, your password will need to be entered before every purchase.

On Kindle Fire HD, Amazon's Parental Controls allow you to also set content restrictions by specifying which content types – such as apps and games – you'd like to be blocked and made inaccessible from your device. To enable content restrictions, you must first turn Parental Controls "On" and then select "Block and Unblock Content Types." On the next screen you can specify which content to block from your Kindle Fire HD.

Kindle FreeTime

Kindle FreeTime is a free app for Kindle Fire HD that allows parents to create a customized content experience for kids. Parents can create a profile for each child and choose which books, apps, games, and videos they want to give their child access to. Parents can also set daily limits for Kindle Fire HD use, or restrict certain categories – for example, games or videos.

While using FreeTime, children can't access:

- Web browsing
- E-mail, contacts, and calendars
- Content stores or purchasing options (including In-app purchases)
- Content libraries on the parent account

- Wi-Fi Connectivity and online access

These features will also be blocked from apps and games that have been added to a child's profile.

Kindle FreeTime is available in the Apps library on Kindle Fire HD. If you don't see Kindle FreeTime in your Apps library on Kindle Fire HD, update your software.

To update your Kindle Fire HD:

- Confirm that your device is connected to a wireless network.
- Swipe down from the top of the screen and tap Sync.

The software update will download in the background and will install once your Kindle is in sleep mode. Once your software has been updated, tap Apps on the homescreen of your Kindle Fire HD and select Kindle FreeTime.

Featured Games and Apps with In-App Purchasing



Fluff Friends Rescue SGN
(969)
\$0.00



Restaurant Story TeamLava
(3,046)
\$0.00



Pandora Pandora Media
(14,866)
\$0.00



BLOOD & GLORY
Glu Mobile Inc.
(10,837)
\$0.00



Fashion Story TeamLava
(2,266)
\$0.00

Featured Publications with In-App Purchasing



Better Homes and Gardens Magazine
Meredith Corporation
(728)
\$0.00



Reader's Digest RDA Digital LLC
(823)
\$0.00



WSJ
The Wall Street Journal
Dow Jones
(1,593)
\$0.00



New York Post for Tablet
(304)
\$0.00



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ComiXology Thousands of Digital Comics	CreateSpace Indie Print Publishing Made Easy	Diapers.com Everything But The Baby	DPRReview Digital Photography	East Dane Designer Men's Fashion	Fabric Sewing, Quilting & Knitting	Goodreads Book reviews & recommendations
IMDb Movies, TV & Celebrities	Jungle.com Shop Online in India	Kindle Direct Publishing Indie Digital Publishing Made Easy	Look.com Kids' Clothing & Shoes	MYHABIT Private Fashion Designer Sales	Shopbop Designer Fashion Brands	Soap.com Health, Beauty & Home Essentials
TenMarks.com Math Activities for Kids & Schools	VineMarket.com Everything to Live Life Green	Wag.com Everything For Your Pet	Warehouse Deals Open-Box Discounts	Woot! Discounts and Shenanigans	Yoyo.com A Happy Place To Shop For Toys	Zappos Shoes & Clothing

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Exhibit J

Exhibit J

AMAZON APPSTORE FOR ANDROID TERMS OF USE

Last updated: November 14, 2011

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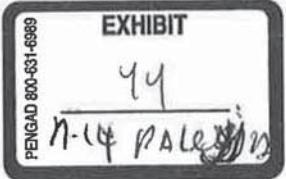
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Exhibit L

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From: Rubenson, Aaron
To: May, Johanna; Paleja, Ameesh
Sent: 2/11/2011 6:19:58 PM
Subject: FW: Apple Faces Scrutiny Over In-App Purchases By Kids



We need to think this through for our IAP implementation. I haven't read your press releases yet Jo (but they are printed out for the plane ride!). Did you include parental controls as part of IAP? We may need to...

>>> <<<

Apple Faces Scrutiny Over In-App Purchases By Kids

By Ryan Kim Feb. 8, 2011, 1:46pm PST

While publishers are grumbling about Apple's new enforcement of in-app purchases for content, parents and one lawmaker are also raising questions about the way Apple handles in-app payments in apps aimed at children. According to the Washington Post, Rep. Edward J. Markey (D - MA) on Tuesday urged the Federal Trade Commission to review the way Apple markets its apps because of questions about the ease with which children are buying items in games.

The issue stems from a story in the Washington Post that showed how children were racking up big in-app purchases inside freemium iOS apps to the surprise of parents. My colleague Kevin wrote about this issue earlier after his step-daughter charged up \$375 worth of virtual goods buys in a gaming app. There are parents controls that can limit children's ability to make purchase, but there is still one glaring loophole: if a parent enters their iTunes password for a purchase and hasn't restricted in-app payments, children using that device can make purchases for the next 15 minutes without having to enter a password.

One woman's daughter in the original Post story racked up \$1,400 in charges on her mother's iTunes account, through Smurfberry purchases in the Smurfs' Village app. The woman later received a reimbursement, but the issue paints the in-app purchase boom in a new light. A report by app analytics company Distimo found that in-app purchases rivaled paid downloads as the top revenue source for developers last year.

While many games and apps are utilizing in-app purchase, some of the most successful are titles from social game makers. Of the top five grossing iPhone apps right now, three (Smurfs' Village, Tap Zoo and Zombie Farm) all use in-app purchases. Smurfs' Village and Tap Zoo are rated for 4-year-olds and up while Zombie Farm is rated for 9-year-olds. Technically, Apple says iTunes users must be 13 years old. In talking to some developers, they said this is an area they'd like to see Apple address. One said they would like to build in more protections for children and parents to prevent inadvertent purchases within the 15-minute window but they must work within Apple's current rules. Smurfs' Village and Tap Zoo have recently added warnings that virtual goods use actual money.

It would be easy for Apple to flip a switch and close the 15-minute window or allow parents to turn it off themselves through the iOS parental settings. Right now there is an option to restrict all in-app purchases, but that also prevents anyone who uses the phone to buy anything inside an app. And as some have noted, it's deep inside the setting menu where many aren't aware it's there. Apple responded to a request for comment by noting that "a password is required to buy any goods in the App Store including using in-app purchases and parents can

use our parental controls settings to restrict app downloading and turn off in-app purchasing."

I imagine Apple will address this either by implementing a new setting option for parents, or they'll renew their efforts to advertise the existing parental settings. But I doubt Apple will try to close the overall 15-minute window for all transactions because it would stifle purchases and add one more hurdle to impulse buys. The App Store sells because it's elegant, easy to use and there are few barriers to buying. And changing that would jeopardize Apple's 30 percent cut of all in-app purchases.

In the end, this won't be a major issue as long as Apple addresses it soon and parents wise up. As my colleague Colin Gibbs pointed out (subscription required), this is the early days of in-app payments and it's in Apple's best interest to establish more safeguards to assure parents. He drew a comparison to ringtones, which got a scammy reputation for going after underage consumers. I don't think we'll see in-app purchases decline in the way ringtones have but I do think that it makes sense to step up with more warning labels or spending limits to ensure nothing slows down the overall acceptance of legitimate in-app purchases. This is a big opportunity for both Apple and developers. Now it's just a matter of making sure the store remains an inviting place to do business for everyone involved.

Source:

<http://gigaom.com/2011/02/08/apple-faces-scrutiny-over-in-app-purchases-by-kids/>

Exhibit M

Exhibit M

lap's 10th Kindle 3

12:19



amazon apps

Close X

Thank you! Your order is complete.

You've successfully purchased:



2,500 Coin Pack

Parental Controls: On ([Change](#))



Exhibit N

Exhibit N

**IN THE UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON**

MATTER NO. X140041, CASE NO. 2:14-CV-01038-JCC

TITLE FTC v. AMAZON.COM, INC.

**PLACE FEDERAL TRADE COMMISSION
 915 SECOND AVENUE
 SEATTLE, WASHINGTON**

DATE OCTOBER 2, 2015

PAGES 1 THROUGH 246

DEPOSITION OF AARON RUBENSON 30(b)(6)

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FTC v. Amazon.com, Inc. 10/2/2015

1 customers know what's coming next.

2 Q Are there other situations when a consumer is trying
3 to complete an in-app purchase transaction in which a
4 password prompt appears?

5 A All of the examples that we've talked about today
6 where we have decided to implement the password
7 prompt to drive down our refund rates, I think, are
8 examples of that.

9 Q And do you consider those to be deviations from
10 consumer expectations from a design perspective, as
11 you've put it?

12 A I think it's -- I think it's slightly different. I
13 do consider them to be friction, as we've discussed.
14 I consider them to be deviations from the 1-Click
15 experience that we believe customers expect and want
16 on these devices. It's, I think, less of a deviation
17 than what we implemented in June. Because at the end
18 of a day -- at the end of the day, the customer is
19 completing a transaction.

20 And so for a reasonable consumer, it probably
21 doesn't seem like too much of a non sequitur that
22 they might have to enter their password to complete a
23 transaction. It's related to the thing they're
24 doing. So I think it's -- it's less of a deviation,
25 although it is a deviation from what we believe is

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1 the -- the best experience, which is why I keep
2 mentioning the friction.

3 Q So how does asking a consumer whether they would like
4 a password for future purchases during the purchase
5 flow constitute a deviation from the purchase
6 experience? An additional deviation beyond just
7 entering a password at all.

8 A Because the decision is not -- the decision is not
9 about that one transaction. It's about -- it's about
10 all -- it's about all transactions. And the
11 customer -- it's a -- it's -- it's -- I think -- I
12 think it is a different -- I think it is a different
13 consideration.

14 Q Do you think from a design perspective, it's a good
15 idea to ask consumers whether they would like to
16 password-protect in-app purchases at some other point
17 in time aside from during the purchase flow?

18 A Quite possibly. Possibly. I mean, in general, as
19 we've talked about, we've -- we've tried to -- we've
20 tried to provide good tools from the beginning that
21 let customers control whether or not a password or a
22 PIN is required. So now your question is asking
23 about the best way to make the right customers aware
24 that they have those tools available to them.

25 The reason I say "possibly" is you could imagine

244

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1 CERTIFICATE OF REPORTER

2

3 DO DOCKET/FILE NUMBER: 2:14-cv-01038-JCC

4 CASE TITLE: FTC v. AMAZON.COM, INC.

5 HEARING DATE: OCTOBER 2, 2015

6

7 I HEREBY CERTIFY that the transcript contained
8 herein is a full and accurate transcript of the steno
9 notes transcribed by me on the above cause before the
10 FEDERAL TRADE COMMISSION to the best of my knowledge
11 and belief.

12

13 DATED: OCTOBER 6, 2015

14

15 _____
16 JOHN M.S. BOTELHO

17

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